



# **The Political Economy of Industrial Policy in South Africa: The case of downstream beneficiation in the PGM subsector**

**KATLEGO RAMANTSIMA 417110**

**A research project submitted at the University of the Witwatersrand, Corporate Strategy and Industrial Development (CSID), in partial fulfilment of the Master of Commerce in Development Theory and Policy Degree.**

**Supervised by Dr Gavin Capps**

**March 2015**

## Declaration

I declare that this research project is my own work. A research project submitted at the University of the Witwatersrand, Corporate Strategy and Industrial Development (CSID) in partial fulfilment of the Honours in Bachelors Commerce in Development Theory and Policy Degree. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Signature



Date: 07/10/2015

Katlego Ramantsima

Word count: 1751

## ABSTRACT

This thesis is centred on the argument that behind the apparent policy consensus around the need for more beneficiation in the mining sector, there are sharp divisions of interest between different class actors and that the implementation of this strategy is limited by the comparative weakness of the state in relation to mining capital. In line with Fine and Rustomjee's (1996) analysis of the Minerals Energy Complex (MEC), this study explores post-apartheid South Africa's argument for a developmental state. The MEC is a system of accumulation that has set the pace and tone of the political economy in South Africa. The system evolves through time, depending on the balance and distribution of stakeholders in the mineral sector and has changed into a policy network of participants in the beneficiation policy. Drawing on an analysis of grey literature, policy documents, a series of interviews with individuals from various stakeholders and other relevant groupings with special knowledge on the subject, the research reveals how the various political and economic interests and power relations shape the nature of state intervention through beneficiation in the Platinum Group Metals (PGM) subsector. The debates around beneficiation are ideological and politicised, dichotomising the state, private capital and labour, ignoring the fact that all stakeholders are an integral part of the MEC. It concludes that South Africa is going through a crisis of state capacity as the state is fragmented, resulting in policy incoherence and strategy misalignment between key departments. This delays development and the quest to pursue successful resource-based industrialisation. Therefore, the idea of a developmental state in post-apartheid South Africa is a contestation.

## AKNOWLEDGEMENTS

I have taken efforts in this project. However, it would not have been possible without the kind support and help of the individuals and research participants that I have worked with. I would like to extend my sincere thanks to all of them.

I am immensely indebted to my inspirational supervisor, Dr Gavin Capps who inspired this thesis into fruition. I am sincerely grateful for your unwavering support, patience and constructive guidance. I consider myself very fortunate to have worked with someone like you. I hope this is a product you can be proud of.

My heartfelt gratitude extends to my parents Thelma and Thapelo Ramantsima who have offered me unconditional support at all levels and have been an inspiration for my work ethic that has made this thesis a success. Kholofelo Nkadimeng, thank you for your unconditional support and understanding throughout this period. I also owe many thanks to my classmates and all of my friends for helping me in exchanging ideas in our research presentation sessions and gave the enjoyable studying environment. Their suggestions and critiques were enlightening and their encouragements made me feel not isolated in my research.

I also thank the CSID teaching and research team for availing me a very conducive space for critical academic debate and socially rewarding relations. I thank the centre for availing me with the DTI Masters bursary which materially enhanced the completion of both this research component, and coursework of my studies.

# TABLE OF CONTENTS

Declaration.....	2
ABSTRACT.....	3
ACKNOWLEDGEMENTS.....	4
Chapter 1.....	10
Introduction .....	10
1.1 Background .....	10
1.2 The MEC framework for analysis .....	13
1.3 Research Gap .....	17
1.4 Research method .....	18
1.5 Chapter outline .....	18
CHAPTER 2 .....	20
From Black Economic Empowerment (BEE) to Beneficiation: the changing politics environment in South Africa.....	20
2.1 Introduction .....	20
2.2 The Neoliberal Era.....	20
2.3 The New Developmental era .....	25
2.4.1 Beneficiation strategy (2011).....	26
2.4.2 Industrial Policy Action Plan (IPAP) (2012/13).....	28
2.4.4 State Intervention in Mining Sector (SIMS) Report (2012).....	28
2.4.5 The MPRDA Amendment bill (2012/2013) .....	30
2.5 Conclusion.....	32
CHAPTER 3 .....	33
The importance of the PGM sub-sector in the MEC: The argument for downstream beneficiation.....	33
3.1 Introduction .....	33
3.2 Contextual background.....	34
3.3 The concentration, global market power and export orientation of PGM's .....	35
3.4 The Beneficiation strategy within the PGM subsector .....	40
3.5 Physical, Market and Institutional Constraints for implementation in PGM sector.....	41
3.5.1 Physical constraints (skills & infrastructure).....	42
3.5.2 Market constraints.....	43
3.5.3 Institutional constraints .....	44

3.6 Conclusion .....	45
Chapter 4.....	46
Findings and Analysis of Primary Research.....	46
DIFFERENCES BETWEEN STATE AND CAPITAL .....	46
4.1 Introduction .....	46
4.2 Beneficiation as a concept for development .....	46
4.3 Who should beneficiate? Perceptions on strategy implementation .....	50
4.5 Conclusion .....	57
CHAPTER 5 .....	58
Findings and Analysis of Primary Research.....	58
Differences within the state.....	58
5.1 Introduction .....	58
5.2 Individual interest vs State interest within the ANC.....	58
5.3 Differences within the Ruling Alliance .....	60
5.4 Roles and interaction platforms for stakeholders .....	60
5.5 Interaction between key government departments .....	61
5.5 The tension between the state with the mining industry .....	64
5.6 Differences within industry.....	68
Chapter 6.....	71
Concluding Remarks.....	71
Reference List:.....	74
Interviews list.....	82

## LIST OF FIGURES

Figure 2. 1: South Africa's Beneficiation Implementation Framework.....	27
Figure 3. 1: Map of the Bushveld Complex, Showing Active Mines and Mine Projects .....	34
Figure 3. 2: Platinum Supply and Demand.....	37
Figure 3. 3: Platinum demand by Application.....	37
Figure 3. 4: Platinum demand for Jewellery Fabrication .....	38

## LIST OF ABBREVIATIONS AND ACRONYMS

<b>Amplats</b>	Anglo American Platinum
<b>AMV</b>	African Mining Vision
<b>ANC</b>	African National Congress
<b>AU</b>	African Union
<b>BEE</b>	Black Economic Empowerment
<b>BIC</b>	Bushveld Igneous Complex
<b>BUSA</b>	Business Unity South Africa
<b>COM</b>	Chamber of Mines
<b>COSATU</b>	Congress of South Africa Trade Union
<b>DME</b>	Department of Minerals and Energy
<b>DMR</b>	Department of Mineral Resources
<b>DST</b>	Department of Science and Technology
<b>DTI</b>	Department of Trade and Industry
<b>EDD</b>	Economic Development Department
<b>GDP</b>	Gross Domestic Product

<b>GEAR</b>	Growth Employment and Redistribution
<b>IDC</b>	Industrial Development Corporation
<b>IMF</b>	International Monetary Fund
<b>IPAP</b>	Industrial Policy Action Plan
<b>MEC</b>	Minerals Energy Complex
<b>MISTRA</b>	Mapungubwe Institute for Strategic Reflection
<b>MPRADA</b>	Minerals and Petroleum Resources Development Act
<b>NDP</b>	National Development Plan
<b>NEDLAC</b>	National Economic Development and Labour Council
<b>NGP</b>	National Growth Plan
<b>NUMSA</b>	National Union of Metalworker South Africa
<b>PGM</b>	Platinum Group Metals
<b>RDP</b>	Reconstruction Development Program
<b>SACP</b>	South African Communist Party
<b>SANLAM</b>	Suid Afrikaanse Nasional Lewens Assuaransie Maatskappy / South African National Life Insurance Company



**SARS**

South African Revenue Services

**SIMS**

State Intervention in Mining Sector

# Chapter 1

## Introduction

### 1.1 Background

In post-apartheid South Africa, particularly after the Marikana massacre mining companies have become careful to present themselves, as a force for good in the South African society by supporting the beneficiation strategy initiated by the state to create more jobs and to steer industrialisation. There appears to be consensus among all mining class interests that an industrial policy in the mining sector is a necessity in order to archive the basic objectives of economic and social progress and to also raise the living standards of the people. However, there are disagreements about how this should be done. This thesis is centred on the argument that behind the apparent policy consensus around the need for more beneficiation in the mining sector, there are sharp divisions of interest between different class actors and that the implementation of this strategy is limited by the comparative weakness of the state in relation to mining capital.

Industrial policy has a broad definition taking into account both the macroeconomic and microeconomic policies designed to support a nation's economy. In essence industrial policy implies extensive state intervention which can be broadly defined to comprise a range of options from 100% equity participation through partial equity arrangement; too look at whether the state does intervene in particular cases for industry or a particular company to protect the society from the atomising and destructive impact of capitalism. The industrial policy definition that this study employs refers to sector and industry specific policies that aim to direct industrialization in line with some definition of the national interest (Chang, 1993). Industrial policy is a concept that is much associated with the concept of the developmental state which has become a buzzword for certain South African government

officials and political figures, indicating their weakness to use greater degrees of state intervention and industrial policy in the core of the economy as a means of achieving wide ranging economic and social policy objectives such as creating economic growth, the creation of decent jobs and poverty reduction.

The debate about industrial policy is old and it has been one of the most controversial issues in development economics. Chang (2013: 2) argues that the debate is more pragmatic than ideological and others argue that it is entirely ideological with predictable positions taken from the left and right. As an economic idea industrial policy is considered as an undesirable policy option by orthodox neo-liberal economists as they assume that successful industrialisation is possible if things are left to the market (Haque 2007:7). However, a minimal leeway is left for the State to act to correct market failures which result from inefficiencies between sectors and economic activities (Haque 2007:7). This approach to policy was adopted and promoted as a global movement towards trade liberalisation during the 1980's and 1990's by multilateral institutions such as the International Monetary Fund (IMF), the World Bank (WB) and the Organisation for Economic Co-operation and Development (OECD) (Rodriguez and Rodrik, 1999: 2). For many years these institutions propagated this ideology to late industrialising countries through the Structural Adjustment policy conditionality and the General Agreement on Tariffs and Trade (GATT). Therefore, late industrialising countries often found themselves obliged to adopt what was common knowledge about international trade and growth. However, the global movement towards trade liberalisation has not delivered the expected benefits in late industrialising countries. In South Africa trade liberalisation has made it difficult for it to develop its industrial sector, particularly the mining sector, as the economy became dominated by capital flight, finance and foreign ownership (Ashman and Fine, 2012).

At the same time, there is an increase in the general positive attitude towards industrial policy. However, its applicability in the global South continues to be treated with skepticism. There are various pessimistic arguments about Africa being incapable of implementing successful industrial policy because of its history, natural resource abundance (resource curse thesis), political economy, lack of bureaucratic capabilities, and the changes in global economic rules (Chang, 2013:1). The implication is that African countries would be better off if they stuck to exporting their natural resources rather than trying to develop manufacturing industries through industrial policy (Chang, 2013: 9). This is an idea evident in the traditional approaches to trade such as the Ricardian model of comparative advantage and the Heckscher-Ohlin theorem which argue that countries will gain by specialising in the production of goods which use their most abundant factor of production (Pacheo-Lopez and Thirwall, 2011: 8).

However, heterodox economists such as Chang (2013: 9) argue that, industrial policy is necessary for the African continent as development cannot only be left to the market forces because if things are left to the market high-productivity industries simply will not get established in developing countries as there are already superior producers from the more advanced countries. Therefore to develop these industries countries in the global South have to apply the logic of infant industry promotion that is, to protect and nurture developing industries through tariffs, subsidies and other means of industrial policy (Chang, 2013: 9). This will eventually make their 'natural advantage' industries unimportant by developing higher-productivity activities (Chang, 2013: 9).

Following the implementation of these neoliberal policies industrialisation and industrial policy have returned to the policy debate in Africa. Recent debate has taken the form of resource based industrialisation which is the promotion of higher value added products associated with natural resources. The idea is heavily influenced by global value chains

research and it is supported by the African Union (AU) through the African Mining Vision (AMV) of 2009. In general, this is an idea which considers that that policy embodies particular social relations and balance of power including the contradiction and different sorts of interests that shape policy. The vision consists of important strategies for the maximisation of mineral resources on growth and development and it emphasises the need for mining to be integrated into the rest of the economy through developing important mineral linkages sectors and investing in geo-survey (SIMS, 2012). It aims to achieve a knowledge driven African mining sector that catalyses and contributes the broad based growth and development of, and is fully integrated into a single market through downstream linkages into mineral beneficiation and manufacturing and also create a mutually beneficial partnerships between the state, private sector civil society and other stakeholders (AMV, 2009: 1 ). The AMV feeds into South Africa's newly adopted State Intervention in Minerals Sector (SIMS) report which seeks to steer mineral based industrialisation at a domestic level as it emphasises the importance of manufacturing natural resources to steer economic development and it has been subject to public debate and criticised by the right for promoting state intervention in the mining sector through the use of taxes and other forms of instruments (ANC SIMS, 2012).

## 1.2 The MEC framework for analysis

Mining and mineral extraction is central to the South African economy and its strength lays in what Fine and Rustomjee (1996) term the Mineral Energy Complex (MEC). The MEC is a concept referring to "...the core set of heavy industry along with the powerful vested interests and institutions that have evolved around mineral extraction and processing. It can also denote their interaction as a distinctive system of accumulation whose dynamics and linkages have determined South Africa's pattern of industrialisation" (Ashman and Fine, 2012: 4). The MEC is an analytical framework which describes the process through which the core set

industries and institutions developed historically in the South African political economy and it also highlights the extent to which the development other sectors in the economy have been hampered (Fine and Rustonjee, 1996: 91). The thesis uses the MEC framework to account for the various interests that shape the platinum subsector. The framework rejects the dichotomy between the state and the market as an entry point to understanding the role of the state. It argues that both the state and the market and their interaction result from the forces that are exerted upon them (Fine and Rustonjee, 1996: 56). Therefore the state never is autonomous from class or other economic and political interests. However, it is subject to the economic and political forces and interests that operate through and upon it (Fine and Rustonjee, 1996: 52). As a historical political economy approach to industrial development in South Africa the concept enables the thesis to assess the scope and limitation of resource based industrialisation in delivering growth in the South African economy. It also aids in analysing a range of strategic economic trajectories, linking these to the shifting balance of economic and political power within South Africa.

South Africa has a comparative advantage in the production of mining products; the three major minerals are platinum, coal and iron ore which are controlled by a group of 6 mining companies which materialized from the minerals revolution of the 19<sup>th</sup> century (Ashman and Fine, 2012: 3). South Africa's platinum mining industry is a specific subsector of the MEC that has risen to dominate the post-apartheid mining economy and it demonstrates the central features of South Africa's political economy: monopolistic industry structures, tight corporate control, and the cooption of the emerging interests of black capitalists (Ashman and Fine, 2012: 3).

The MEC remains by far the largest contributor to the country's GDP, exports, capital formation and employment (ANC SIMS, 2012). According to the Chamber of Mines South Africa (2012) mining is an attraction for foreign exchange in the country and accounts for

one third of the market capitalisation of the Johannesburg Exchange (JSE). In 2012, the mining sector accounted for 8.3% of GDP directly and accounted for about a million jobs and in the year 2012 alone. The platinum industry has emerged a major producer and exporter of raw material and prior to the implementation of the Minerals and Petroleum Resources Development Act (MPRDA) it managed to retain exclusive control of its resource base (Capps, 2012: 65). Primary platinum producers are: Amplats (Anglo American Platinum), Impala and Lonmin Platinum. Despite the maturity of this subsector South Africa has failed to engage in downstream beneficiation as it should in order to develop a PGM manufacturing industry of the same scale and scope. Instead, it imports manufactured goods from countries such as India, Brazil, and China which are examples of developing countries that have managed to develop effective policy strategies that diversified away from traditional economic activities into more advanced products in the mineral value chain (Economic Commission for Africa, 2004). Not only do these phenomena highlight the shortfalls internationalization but it also indicates the importance of global economic linkages that are associated with manufacturing.

In the post apartheid era the MEC has transformed into a policy network of participants in the beneficiation policy when South Africa adopted the *Beneficiation Strategy for the Minerals Industry of South Africa in 2011*. This was an attempt by the state to stimulate mining structural transformation as the strategy prioritizes the mining value chain as one of the key economic activities in the creation of employment and diversification of the economy (DMR, 2011: 1). It also seeks to provide an enabling environment for leveraging on the resource endowment of the country (DMR, 2011: 1). The strategy is also part of South Africa's government policies like the National Growth Plan (NGP) and Industrial Policy Action Plan (iPap2) and it is also supported by the newly adopted SIMS report and the amendment of the

Mineral and Petroleum Resources Development Act (MPRADA) which are discussed in the thesis as means of understanding the debate around industrial policy in South Africa.

The term beneficiation is used in the thesis to ‘...*broadly to describe the successive processes of adding value to raw materials from their extraction through to the sale of finished products to consumers, covers a wide range of very different activities.*’ These include large-scale and capital-intensive operations like smelting and technologically sophisticated refining as well as labour-intensive activities such as craft jewellery” (Minerals policy, 1998). It can be an upstream and downstream process but the study focuses on downstream because it is concerned about the importance of developing local manufacturing of the natural resources and it is sector specific strategy central to industrial development. Most importantly, downstream beneficiation is crucial for improving the states capacity which is in line with the role of the state in the developmental state paradigm which the study explores. This is because having natural resource endowment does not automatically translate to downstream beneficiation, but it requires dedicated interventions to address possible constraints to realise a competitive advantage for the mineral beneficiation industries.

In post-apartheid South Africa, the debates around beneficiation which is a form of industrial policy are ideological and politicised by the state, private capital and labour who are an integral part of the MEC. The thesis findings reveal the different perceptions about the strategy and how it should be implemented. It also demonstrates that difference in perception is reflected within the state and the ruling alliance, between the state and industry and within business. It shows the existence of factions within the African National Congress (ANC) and in industry as there are those who are in favour of intervention of a special kind, one that suits their own interests and not the interest of the nation. The whole question of the limits to state action becomes crucial, limitations on the ability of the state to solve problems of capital.



Through the use of the MEC framework the study seeks to answer an overall research question which is; why does the South African state seem unable to pursue a resource based industrialisation in the platinum sub-sector to promote a particular power for industrialisation? To answer this broad question the study makes emphasis that industrial policy has a political economy and it does not exist in a vacuum but it is actually structured around the real world dynamics of power. Therefore, to provide an understanding of the interests of the state in the PGM subsector this study provides a sector level analysis that identifies the interests, incentives, power structures and relations that shape policy and practice at the level of the sector. It also focuses on the state and other institutional problems of cooperation and coordination and point to rigorous micro foundations for institutional analysis. To achieve these aims and objectives the study employed a qualitative explanatory methodology account for the relationship between the state and platinum mining capital.

### 1.3 Research Gap

The role of industrial policy can play an important role in resolving most of the problems faced by South Africa's PGM subsector which the market mechanism cannot deal with. Research regarding industrial policy in South Africa has often engaged mainly with the question of policy leaving out a crucial political component which plays itself out within the domain of the formulation of policy, translation into strategy and implementation. Fines (2012) critique of the New Growth Path (NGP) highlights the importance of an industrial policy and coherent coordination of policy among government departments to address vertical, sectoral policies, and horizontal, strategic initiatives to ensure a successful industrialisation from the perspective of the MEC. However, Fines article does not discuss how this may apply to within particular subsectors. Therefore there is a gap in the current scholarly work that aims to capture the South African Political Economy of the PGM

subsector after the transition that is, the discussion around the politics of growth, beneficiation, and the role of the state and or business. Thus, this study aims to partly address this gap by extending Fines logic of analysis to this particular subject of beneficiation as a form of industrial policy.

## 1.4 Research method

The research engaged in an inductive qualitative methodological approach. Various methods were used to gather the research data such as relevant literature about the MEC and the developmental state, the state and capital as well as government policies and legislations, articles, newspapers, and benchmark material. The research used an expert sampling and snowballing technique to obtain a broad spectrum of stakeholders like policy makers, academics, experts, practitioners and other relevant groupings who were formally invited to participate in the study. The primary research was conducted through in-depth semi-structured interviews with key informants: people with special knowledge on the subject which includes academics who have knowledge about the platinum sector, officials from government, officials from the platinum mining companies, union members and officials.

## 1.5 Chapter outline

Chapter 1 presents a background to the current study of beneficiation in the PGM subsector and discussed the MEC as an analytical tool that enables one to understand South Africa's distinctive path of accumulation. It also provides a brief history of the MEC explaining why there was never the development of the industrial policy taking into account the different class interest at play. Chapter 2 discusses political, legal and economic events that had a significant impact on the changes in South African mineral policy following democracy in 1994 and has demonstrated a path dependency of sectorial interests that continue to dominate

policy making to today. Chapter 3 discusses the market structure of the PGM sector as well as the underlying class forces and other socio economic constraints that impede the success of beneficiation in the sector. Chapter 4 and 5 are presentations of the findings. Chapter six concludes the research report by presenting an analysis the main findings in relation to beneficiation policy of the minerals industry of South Africa.

## CHAPTER 2

### From Black Economic Empowerment (BEE) to Beneficiation: the changing politics environment in South Africa

#### 2.1 Introduction

The inauguration of the new dispensation in South Africa initiated a dynamic shift in the ownership, management and development of the countries minerals. This chapter reviews the political, legal and economic events that had a significant impact on the changes in South African mineral policy following democracy in 1994. The chapter shows the importance of ideology in restructuring policies and the influence it has on development planning and implementation. It also captures the shift from GEAR to the NGP and how this shift has manifested itself in mining policy resulting in a shift from BEE to Beneficiation. The chapter argues that not only is the ANC facing the repercussions of its earlier macroeconomic policy decisions but it also faces repercussions its earlier mining policy which is one of the major stumbling block to successful downstream beneficiation in the PGM subsector.

#### 2.2 The Neoliberal Era

The literature on the MEC pays attention to class interests influencing policy and how their objectives systematically constrain the development of other policies (Fine, 2008). The MEC has experienced significant changes since the abolishment of apartheid as the domestic economy was restructured according to the core principles of neo-classical macroeconomic policy which redefined the relations between the state and the market. These changes are partly due to democratization, economic restructuring, globalization and financialisation (Ashman, Fine and Newman, 2012). Pre 1994 there was a desperate call for a radical change in mining from the various parts of the liberation movement. The African National Congress

(ANC) was ideologically orientated on the side of a socialist transformation. Its main political agenda was to advance the 1955 Freedom Charter's radical commitment that:

*“The mineral wealth beneath the soil, the Banks and monopoly industry shall be transferred to the ownership of the people as a whole; ...”*

With coming to power, the new elected ANC continued to advance some aspects of the Freedom Charter under the Mandela Administration in 1994 through the Redistribution and Development Programme (RDP) policy framework which echoed in the Freedom Charter. According to Cawood (2004: 54) the notion of national interest is central in understanding this statement, because mineral resources are a national interest which should be developed to benefit all citizens of the country. “In practical terms the statement implies that ownership of all minerals must vest in the state on behalf of the people and that the users of mineral rights (mining companies) must pay rent to the state (the agent of the people)” (Cawood, 2004: 54). The RDP also reaffirmed the ANC's intent to engage in beneficiation in order to create jobs and produce more appropriate incentives for manufacturing (RDP, S 4.5.1.5).

Despite the demands for radical change the political settlement of 1994 protected white capital as the power of MEC interests overwhelmingly influenced ANC policy from 1996. The transition to the Mbeki presidency marked a shift in South Africa's economic policy with the adoption of the Growth Employment and Redistribution (GEAR) policy in the year 1996, characterised by tight monetary regulation, privatisation and enthusiastic promotion of international investment and trade as the locomotive to eradicate poverty (Freund, 2007: 661). The GEAR policy enabled South Africa into the dominant global neoliberal paradigm and domestically it was used as an instrument to protect the interests of the MEC as it resulted in the reduction of capital controls, conglomerates moving their primary listings abroad and selling their (less productive) assets to the aspirant black bourgeoisie (Fine and Rustomjee, 1996: 3). It also resulted in the abandonment of the ANC's absolute commitment

to the nationalization programme of the Freedom Charter and also meant that the focus on beneficiation was put on hold.

The MEC analysis shows how globalisation in South Africa has created a power imbalance between the state and the market. Globalisation has contributed to the creation of a weak state and a powerful MEC market. The foreign listings and unbundling of the big productive capitals were not because they feared the loss of economic control in South Africa since there was a new government but it entailed a focus on their productive mining core and an emphasis on the internationalisation (and financialisation) of their operations (Fine and Ashman, 2012: 3). The implications of foreign listings to the South African economy was that, it stuck to exporting their natural resources rather than trying to develop manufacturing industries through industrial policy (Fine and Ashman, 2012: 3). The other is that the profits are not located within the jurisdiction of the country. At the same time, this unbundling has led to the emergence of distinctively financial corporate groupings with an increasing amount of domestic power (Fine and Ashman, 2012: 3).

South Africa released the Minerals and Mining Policy for South Africa in October 1998 which outlined the resource nationalism objectives of the country. Its main objective was *'to develop South Africa's mineral wealth to its full potential and to the maximum benefit of the entire population'* (including downstream linkages) and advocated for lower royalty rates and other concessions for firms that engaged in beneficiation (Cawood and Oshokoya (2013), Bond and Khosa (1999: 38). However, there was limited job creation in beneficiation projects and this continued to be a concern. The ANC's new plan to enforce structural change in the mining sector was now done through the influence of regulation and encouragement of equal opportunities for all citizens in order to construct of a vibrant, competitive and 'investor friendly' national mining sector (Capps, 2012: 316).

Over the period of six years, the ANC extended and refined its mineral policy to encompass social and economic policy goals ANC and found its initial legislative form in the Mineral Development Bill (MDB) (2000). The MDB's main aim was to accelerate investment led growth in the national mining industry through the strategic nationalisation and redistribution of mineral property right (Capps, 2012: 321). The most significant of these social goals was the transformation of the racial structure in mining to be achieved through the Black Economic Empowerment (BEE) a policy initiative established by corporate business who were once the Afrikaner insurance giant Suid Afrikannse Nasional Lewens Assuaransie Maatskappy (SANLAM) and Anglo-American, set out to increase black ownership in companies and create a new black middle-class in South Africa (Freund, 2007: 665). This meant that black Africans could access finance capital, management training, and skills upgrading. Capps (2012) and Southall (2004) point out to the fact that restructuring the mining core of the economy was not the only concern but BEE was also good for business as sections of the white monopoly held the view that the formation of a black middle class was essential for stabilising South African capitalism. The MDB was severely criticised for giving the Minister wide and open discretionary powers. This resulted in the government rewriting the Bill into one that is more acceptable (Cawood, 2004: 56). Ashman and Fine (2012) argue that these developments have both reproduced and changed the MEC's determining influence across the economy.

The Mineral Policy (1998) and the Freedom Charter (1955) served as the foundation for the enactment of the Mineral and Petroleum Resources Development Act (MPRDA) (2002). The MPRDA Act of 2002 became a product of the responses given to the state after the release of the MDB (2000). It posed a radical departure from the previous mining policy and legislation. According to Cawood (2004) the MPRDA of 2002 nationalised mineral resources in South Africa through the conversion of old-order private rights to new-order state rights and placed

the state as the custodian of the nation's mineral resources. It also introduced a number of obligations that mining companies needed to fulfil in order to obtain a mining or a prospecting right including BEE targets for ownership in South Africa's mineral industry (Cawood, 2004: 56). BEE was championed under Section 100 of the MPRDA and promoted through elements of ownership and beneficiation. The concern with BEE policies has been the lack of uncertainty that arises from the MPRDA. The evolution of the corporate structure governing platinum extraction reflected the post-apartheid economy's continuing prioritisation of mineral exporting over local beneficiation, the diversification of the economy, and greater employment generation (Fine and Ashman, 2012). In other words, a major obstacle to the implementation of the beneficiation strategy was the MEC's lack of interest in promoting downstream beneficiation and local industrialisation.

Government has committed to the promotion of local beneficiation through legislation. The MPRDA of 2002 made provisions for the beneficiation strategy especially for the security of minerals supply and to make sure that there is sufficient feedstock available for downstream beneficiation (Cawood, 2004: 56). Section 26 of the MPRDA stated that the objective is to meet national development objectives and bring about optimal national benefit by transforming the mineral beneficiation sectors and that the minerals mined should be integrated into the rest of the economy through further processing before they are exported (DMR, 2002: 16). However, this is the most controversial clause with regards to beneficiation and has been subject to a lot of debate.

These provisions of the Act, 26 (2A) empowers the Minister to prescribe beneficiation levels which will be specified in the regulations and informed by the current and future absorptive capacity of the local beneficiation industry (DMR, 2002: 16). These provisions are to ensure that downstream industries have a reliable supply of input materials for conversion into higher value goods, resulting in increased job opportunities and export revenue gains through



increased economic activities realized by extended mineral value chains. The Act also provides that the Minister shall, from time to time by notice in a Gazette, determine such percentage per mineral commodity or form of petroleum and the price in respect of such percentage of raw minerals as may be required for local beneficiation, after taking into consideration national development imperatives (DMR, 2002: 16). However, most of these powers given to the state were not used as the state prioritised BEE as means of restructuring the mining sector.

## 2.3 The New Developmental era

With the ascendancy of President Jacob Zuma in the year 2007 there was a widespread desire to shift from neo-liberal policies towards greater emphasis on economic and social reform in the interest of the majority. The ANC adopted interventionist strategies in mining as it had realized that neoliberal policies adopted by the Mbeki Administration were detrimental to the development of the mining sector. During this era, beneficiation was brought forward to the debate table and it seemed like a new agenda by the ANC but as we have learned in the previous section, this was not an entirely new idea. The problem back then was that beneficiation was not prioritized by the ANC as well as it should have been. Instead, the objectives of archiving greater black ownership were highly prioritized at the expense of national industrialization. The current ANC government aimed to do things slightly different as it now prioritizes the beneficiation strategy in the ANC's macro and micro policy initiatives such as the New Growth Path (NGP) (2010), the newly adopted State Intervention in Minerals Sector (SIMS) (2012) report and the amendment of the Mineral and Petroleum Resources Development Act (MPRADA) of 2008. All these instruments also identify PGM's as a mineral of great potential for value beneficiation and suggest that South African state is making an effort to actively intervene in industrial development.

The South African Beneficiation strategy is aligned to the NGP macroeconomic policy that is implemented by the Economic Development Department (EDD), is aimed at creating employment opportunities and ensures socio economic development. It promotes mining effort by the state it advocates for the beneficiation strategy to support mineral fabrication to stage 4 rather than stage 1 and 2 (currently taking place in South Africa) which are only smelting and refining and is both capital and energy intensive (EDD, 2011: 15). The policy recommends stronger measures to address uncompetitive pricing of intermediate inputs, such as where appropriate, export taxes on selected mineral products linked to clear industrial strategies (EDD, 2011:15). However, Fine, (2012) and Segatti & Pons-Vignon, (2013) argue that NGP facilitated by the Zuma administration which are major macroeconomic policy shifts that all mirror the neoliberal ideology of less state intervention and are argued to contain emphasis on the ideological myth about a developmental state to conceal their neoliberal character (Fine, 2012; Segatti & Pons-Vignon, 2013).

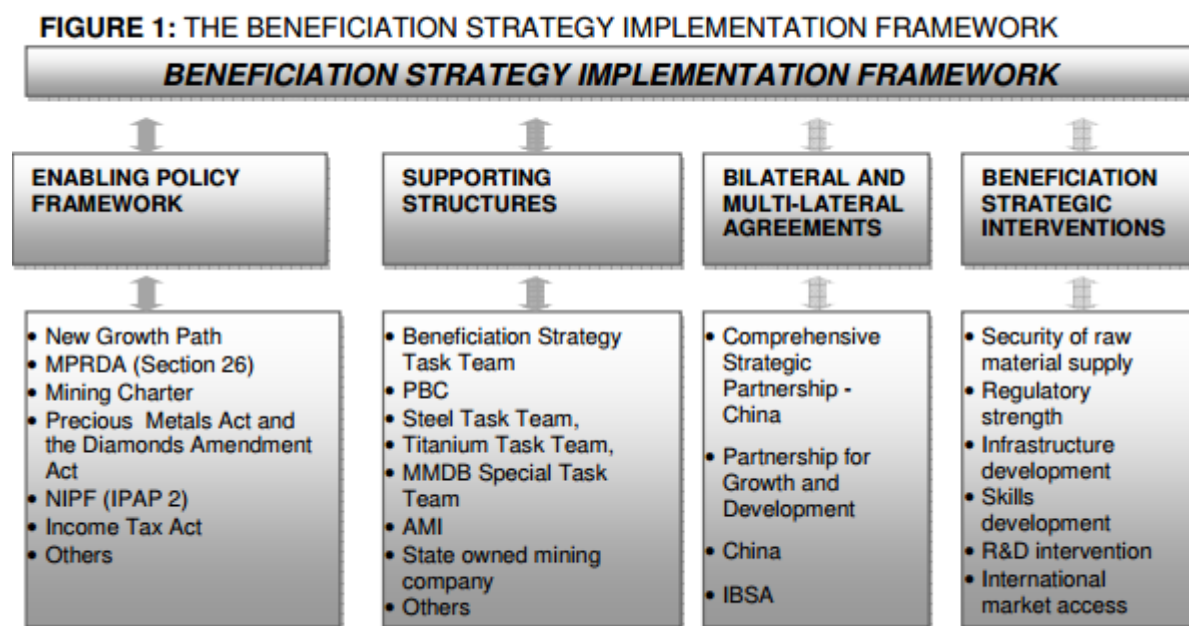
#### ***2.4.1 Beneficiation strategy (2011)***

In general, the Department of Mineral Resources (DMR) Beneficiation Strategy is restricted to downstream beneficiation (forward linkages). The Strategy identifies PGM's as a strategic mineral to beneficiate. However the basis for its selection is unclear, other than that SA has the world's largest resources of PGMs, given that the employment creation opportunities are apparently limited. The strategy recommends that effective implementation of the beneficiation strategy is based on the coordination of the various policy provisions such as the Minerals Industry policy (NIPF), the MPRDA, Mining Charter as amended (2010) and the Precious Metals Act, 2005 (PMA) which seek to support the broader government programs, such as the industrialisation (DMR, 2011: 9). It also suggests that constraints faced

by the sector require mitigating intervention(s) from all stakeholders to moderate such limitations, in order to implement the beneficiation strategy effectively (DMR, 2011: 9). Below is a table showing the strategies implementation framework.

## Figure 2. 1: South Africa's beneficiation Implementation Framework

Figure 2. 1: South Africa's Beneficiation Implementation Framework



Source: Department of Mineral Resources (2011)

One is able to observe that there is nothing strategic about this strategy as the strategy fails to propose detailed concrete strategies that are ready for implementation and it appears to accept the current legal regime as given, rather than proposing amendments to enhance beneficiation. Jordaan (2014: 12) argues that, given that minerals are a state asset that is concessioned to a mining company to extract, the conditions of the mining license are the strongest instrument available to be used to ensure greater value addition.

### ***2.4.2 Industrial Policy Action Plan (IPAP) (2012/13)***

The NGP document is organised around the Industrial Policy Action Plan (IPAP) which is an industrial development plan implemented by the Department of Trade and Industry (DTI) that builds on and broadens interventions in sectors. It is essentially a policy and action plan designed to help build South Africa's industrial base in critical sectors of production and value-added manufacturing. It is a time bound strategy that consults with different parts of government and business to support manufacturing and competitiveness of companies and designed to address the decline in South Africa's industrial and manufacturing capacity and contribute to the reduction of chronic unemployment (EDD, 2010: 2 and DTI, 2013). The DTI has selected PGM's as one of the key value chains of to advance downstream beneficiation.

As part of the plan Special Economic Zones (SEZ) have been established in the Rustenburg platinum belt to develop industries that use platinum as an input. These include jewellery auto catalytic converters and fuel cell technology (DTI, 2013: 69). One could argue that this idea of intervention represents a close idea of a developmental state as it encourages some level of intimacy between the DTI (government department), and the various sectors and the intensity of its involvement with the market.

### ***2.4.4 State Intervention in Mining Sector (SIMS) Report (2012)***

Since the early 2000's the state and the ruling ANC government have going through a process of debating proposals that could enforce a radical intervention in the minerals sector. The nationalisation debate and the new resource nationalism debate were the proposed policies to probe for radical state intervention in order to achieve better social outcomes from mining. According to Cawood & Oshokoya's (2013), the optimal mining means within the

wide range of interpretations of resource nationalism and position's South Africa's mineral and fiscal regimes in such context.

The heated debate led to the 2012 ANC elective conference in Mangaung where the nationalization debate decreased as the governing party opted for policy resolutions that favored beneficiation. Following the recommendations and findings of the SIMS report the ANC resolved to strategically target particular mineral value chains to optimize their developmental impact in the economy through the use of resolutions favoring strategic engagement with various stakeholders such as mining companies, organized labour and state institutions in order to advance developmental goals of the ANC led government (ANC, 2012; Sergeant, 2013). However, the SACP, NUMSA and COSATU welcome some of the objectives made suggested by the report such as the implementation of a resource tax. But also argue that, the reports objectives are unrealistic and that it is more focused on capitalist interests than on the working class and the poor (SACP 2012, NUMSA 2013 and COSATU 2012 ).

The MPRDA amendment bill echoes the SIMS report to help guide the party's deliberation on mining policy. Manufacturing is central to the SIMS policy framework as it identifies downstream beneficiation as key to developing industry because most minerals are supplied back into the country at a monopoly or import parity pricing (SIMS, 2012: 5). SIMS (2012) proposes coal, iron ore and PGM's as strategic minerals to develop the economy and argues that, due to the fact that there are currently no viable substitutes to platinum, the country's producer-power could be used to negotiate supply and local beneficiation. The document argues that Platinum should be treated like gold in South Africa's exchange control regulations – which prohibit the sale of precious metals without National Treasury exemption as it has become an international investment instrument. This will give the state the right to market platinum (SIMS, 2012: 43).

For a successful beneficiation to take place it argues for the following:

- Tax regime- resource rent is the surplus value for the state from mining
- Beneficiation and strategic classification
- Special Economic Zones or beneficiation hubs- to ensure job creation
- Skill development
- Minerals Commission- Separate agency than a government department than the DMR to be responsible for licensing in order to maximize economic development
- Presidential and Mineral Rights Audit Commission- to audit all licenses
- Supra-ministry- for improved co-ordination and alignment between key departments

#### ***2.4.5 The MPRDA Amendment bill (2012/2013)***

Since the beginning of 2008 South African mineral legislation has underwent some several changes which will have an impact on mining related operations. The MPRD Amendment was passed by Parliament in November 2008 and received Presidential assent in April 2009. There was a long delay before this agreement was implemented as the MPRDA of 2008 also contained provisions which were said to be contrary to assurances given to foreign governments and the mining industry. These issues were to be dealt with in the MPRD Amendment Bill. On 31 May 2013, notice was given that the MPRD Amendment Act would be brought into force on 7 June 2013 but there was a revised public statement issued to the effect that certain of the provisions of the MPRD Amendment Act would not be brought into force until further notice (Stevens, 2014) . The MPRD Amendment Act allows the Minister to stipulate what levels of beneficiation must be introduced as opposed to providing incentives to beneficiate. The MPRD Amendment Bill Section 26 is further amended and it now states that the Minister "*must*" initiate beneficiation as opposed to "*may*" initiate beneficiation. Briefly these Amendments seek to give the Minister power to:

- Determine the percentage of a mineral resource that must be available for local value addition
- Set a developmental price for the designated mineral/s
- Seek written consent from any person who intends to export the designated minerals

However, the Bill continues to stir up heated responses from some political parties, mining companies and civil society organizations for various reasons. Industry is opposed to the amount of power the Bill gives to the Minister to designate and declare as strategic certain mineral resources for beneficiation at discounted prices. Whilst the labor movement represented by NUMSA argue that the Bill is unlikely to fast track the beneficiation process for as long as the Bill does not recognize the need to beneficiate of all strategic minerals, a ban on the export of scrap metals and rebuilding of foundries, import parity pricing and an export tax on all strategic minerals (NUMSA, 2014).

These changes in policy strengthened the idea of the developmental state by the transition to Jacob Zuma's presidency. However, Zuma himself has never rejected the neo-liberal framework that he inherited and has repeatedly said that there will be no major shifts in policy (Ashman, Fine and Newman, 2010: 23). Ashman, Fine and Newman (2010: 23), argue that the post-apartheid government adopted the term developmental state after it had realized the detrimental results of the neoliberal policies promoted by the Washington Consensus which the government itself had perused. The adoption of the term was a deliberate strategy by the ANC to dabble in intellectual authority and historical precedent. It was also a strategy to save Mbeki from his discredited policies which failed to bring about change and achievement since the end of apartheid (Ashman, Fine and Newman, 2010: 23). The implementation of these discussed policies has resulted in insignificant progress for

industrialization. However, the form and degree of state intervention remains a challenge because the global and domestic policy environment still favors capital and less state intervention as an ideal strategy for industrialization.

## 2.5 Conclusion

The chapter has demonstrated that ideology plays a pivotal role in restructuring policies and the implementation of strategies. It has shown that the historical process behind mineral policy development in South Africa involves a relationship between the various class forces in the MEC. The Chapter demonstrates a path dependency of sectorial interests governing policy pre-1994 that still continue to dominate policy making to date and concludes on a note that timing is crucial for policy, the post-apartheids states failure to facilitate beneficiation earlier in the MEC is a major stumbling block for the success of a beneficiation strategy. The following chapter discusses the production, the challenges and strategic opportunities that arise from the PGM's including the implementation of beneficiation in this subsector.



## CHAPTER 3

### The importance of the PGM sub-sector in the MEC: The argument for downstream beneficiation

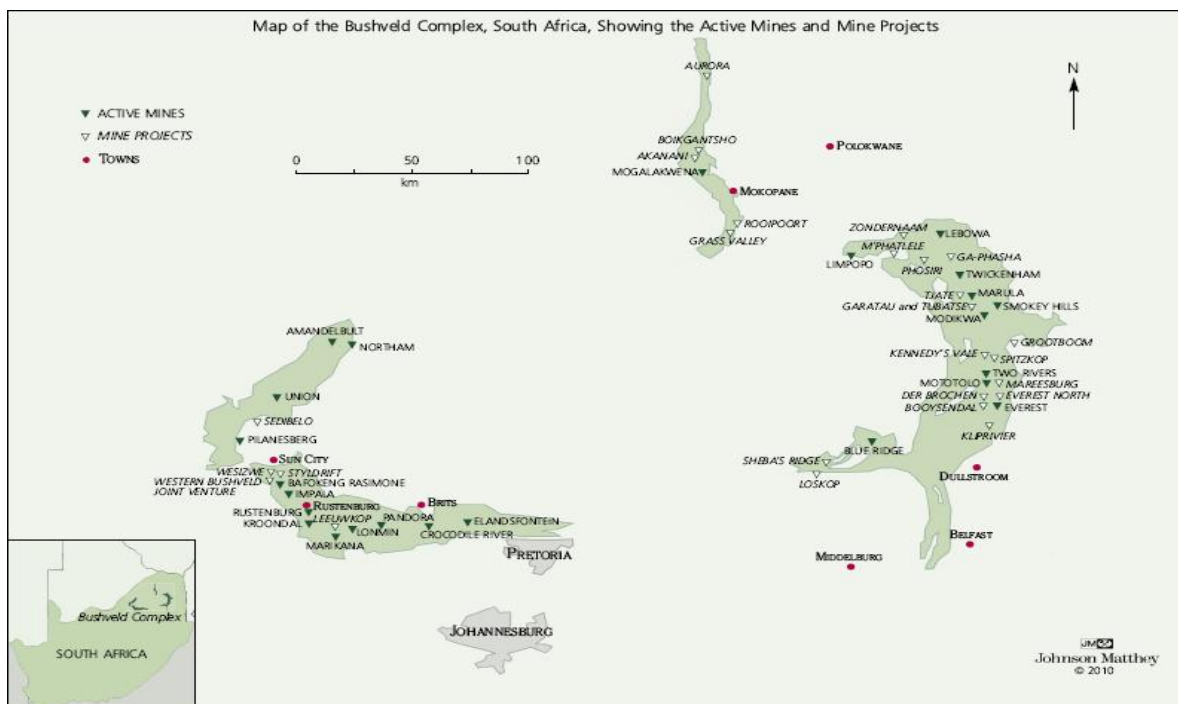
#### 3.1 Introduction

South Africa possesses over three-quarters of known Platinum-Group Metals (PGM) global reserves. The six PGM's are ruthenium, rhodium, palladium, osmium, iridium, and platinum. They have similar physical and chemical properties, and tend to occur together in the same mineral deposits (Mistra, 2013: 6). These metals are generally used in applications which depend strongly on their unique properties. South Africa holds most of the world's platinum reserves which could take the country onto the next stage of industrial development as there are strategic opportunities that arise from South Africa's natural local manufacturing of PGM's. PGM's have been driven by high prices due to an increase in demand for auto catalytic converters, luxury jewellery, electronics and hydrogen fuel cells, which are strategic opportunities that South Africa should take more advantage of to steer industrialisation. However, the South African state is not taking full advantage of these opportunities as well as it should. The chapter starts off by providing a brief contextual background which discusses Platinum and the economic and geographic location of the platinum reefs within the MEC. The chapter then discusses the production of PGM's and the platinum market in order to capture the challenges, opportunities and the pressures that are confronted in this sector. It also discusses the beneficiation strategy within the PGM sector including the physical, market and institutional constraints that impede the success of the strategy.

### 3.2 Contextual background

South Africa and Russia dominate world production of PGM's however South Africa is the leading producer of PGM's (Table 2.2). South Africa's PGM productions are derived from the Bushveld Igneous Complex (BIC), a 370 kilometre diameter layered igneous intrusion located in the Limpopo, Gauteng, the North West and Mpumalanga provinces (Capps, 2012: 66). The principal PGM bearing reefs are the Merensky reef and the Upper Group reef (UG2) found in the eastern and western limb including the Plat reef found only on the Potgietersrus limb at the north-eastern edge (see figure 2.1) (Johnson Matthey 2014, Capps 2012: 66) .

**Figure 3. 1: Map of the Bushveld Complex, Showing Active Mines and Mine Projects**



Source: Johnson Matthey (2010)

The first discoveries of PGM reefs briefly first took place in 1920's in the Platreef but it was not exploited on a large scale. However the Merensky Reef found in both the western and eastern Bushveld became the principal source of PGM until the end of the 20<sup>th</sup> century (Johnson Matthey 2014, Capps 2012: 66). The second most significant is the Upper Group 2

Chromite Horizon which runs at variable depths below the Marensky Reef and finally the Plat reef found only on the Potgietersrus limb at the north-eastern edge (see figure 2.1) (Capps 2012: 66). South Africa's ore quality, PGM composition, reef structure and depth are different from elsewhere. This dictates the type of mining and extraction, the application of labour and capital and the production costs which form the basis in the South African industry and created powerful competitive pressures to win control of the BIC.

### **3.3 The concentration, global market power and export orientation of PGM's**

Capps (2012: 67) identifies three factors of that have combined to give the PGM sector an extreme monopolistic character. First is the natural rarity and intense geological concentration of the worlds PGM reserves in the BIC. Second is 'the extraction and beneficiation of platinum that requires considerable applications of capital, technology capacity and expertise' (Capps, 2012: 67). Finally, the high platinum commodity prices which have historically resulted in a highly volatile global demand (Capps, 2012: 67). Out of all six PGM's, platinum is regarded as an excellent raw material for manufacturing processes because of its distinctive chemical and physical properties. Together with other PGM's platinum is used in various industrial processes and commercial applications such as jewellery, electronics, glass fibre medical tools, auto catalytic converter applications and so forth (Mistra, 2013: 7). Auto catalytic converter applications are the largest users of PGM's that reduce pollution by treating exhaust gas before it leaves a car. There is a great demand for auto catalytic converters in Europe but due to weak car sales in since 2008 that negatively impacted platinum demand resulting in a volatile market for PGM's in the year 2012 and 2013 (see Table 2.2 and Figure 2.3). Recently, however, the demand for catalytic converters in Europe has decreased and platinum has increasingly been substituted by palladium due to

the latter's lower price. This has raised concerns over future demand for platinum and ultimately sustainability of the metals mining industry in South Africa (SA), the world's largest supplier of the metal.

Strong demand for platinum has also been underpinned by the growth of Chinese jewellery demand and strong industrial use (see figure 2.4). Supply growth for platinum has been marginal over the past several years. In 2012 primary supplies of platinum at 5.64 million ounces were at a twelve year low with South African sales down by 16% to 4.10 million ounces. The South African platinum industry has seen a substantial drop-off in supply related to labour disruptions and safety stoppages. A number of marginal mines have closed and this trend was expected to continue. However, PGMs, and platinum in particular, are increasingly finding other uses in a variety of applications, most notably fuel cells and investment. As means of growing their market and location in industry Anglo Platinum, the world's dominant platinum producer, has introduced a restructuring plan that will see several underperforming mines close leading to a smaller production base (Amplats, 2014).

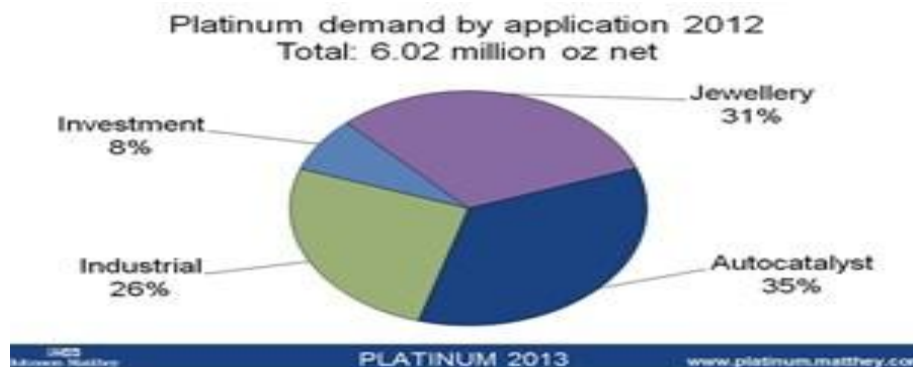
**Figure 3. 2: Platinum Supply and Demand**

Platinum Supply and Demand			
	'000 oz		
Supply	2011	2012	2013
South Africa	4,860	4,090	4,120
Russia	835	800	780
Others	790	760	840
<b>Total Supply</b>	<b>6,485</b>	<b>5,650</b>	<b>5,740</b>
Gross Demand			
Autocatalyst	3,185	3,190	3,125
Jewellery	2,475	2,780	2,740
Industrial	1,975	1,605	1,790
Investment	460	455	765
<b>Total Gross Demand</b>	<b>8,095</b>	<b>8,030</b>	<b>8,420</b>
Recycling	(2,060)	(2,040)	(2,075)
<b>Total Net Demand</b>	<b>6,035</b>	<b>5,990</b>	<b>6,345</b>
Movements in Stock	450	(340)	(605)

Source: Johnson Matthey

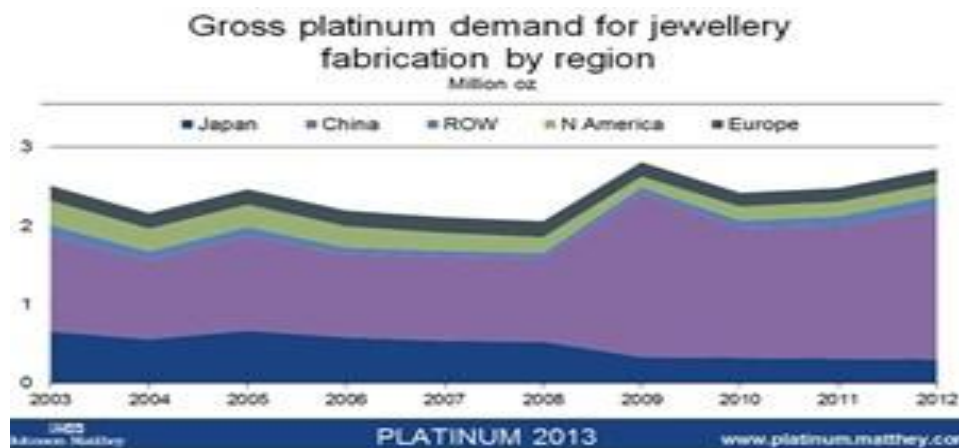
Source: Johnson Matthey (2010)

**Figure 3. 3: Platinum demand by Application**



Source: Johnson Matthey (2013)

**Figure 3. 4: Platinum demand for Jewellery Fabrication**



Source: Johnson Matthey (2013)

The ownership of the PGM value-chain is extremely concentrated in Europe, North America and to some extent Asia. There is no South African ownership of the companies that are involved in the beneficiation of platinum globally despite it being the leading producer of PGM's. Mining in the BIC is dominated by three private monopolistic producers namely, Anglo-platinum, Lonmin and Impala and have dominated the sector since the apartheid era. These mining companies' possess power to control platinum productivity by entering into joint-venture partnerships with emerging domestic black capitalist interests and also converted their old-order mining rights (Ashman, 2012: 2). South Africa's potential for successfully building downstream beneficiation industry is restricted by many underlying factors. One of them is the dominance of these three private monopolistic producers who possess power to control platinum productivity.

Downstream firms that work together with these platinum producers such as Johnson Matthey, BASF and Umicor have divided the world equally among themselves on the basis of South African platinum be it at the level of the raw mineral or at the level of value-addition, since by and large the entire value chain is owned and controlled outside the borders of South Africa (NUMSA, 39). These firms make up just over 87% of the global market

dominating the manufacturing of auto-catalysts and the making of PGM jewellery. Anglo Platinum which produces over 42% of world platinum output has a supply agreement with Johnson Matthey, thus Johnson Matthey's market share position can be attributed to a significant extent to platinum originating in South Africa. Johnson Matthey controls 31% of the global market however, the majority of its shareholders are based in the UK (65%) and the US and Canada (16%) (NUMSA, 40). Interestingly Johnson Matthey reportedly used to be the sole marketing agent for Anglo Platinum. Anglo Platinum owns 17.5% equity in Johnson Matthey Fuel Cell Limited and controls 43% of its voting rights. The BASF has a long-term supply contract with Lonmin, and it also controls 31% of the global market in the PGM value chain, with 81% of its shareholders located in Europe, the US and Canada. It also acquires platinum from Anglo Platinum and Implats. Umicore is based in Belgium and it is estimated to control 25% of the global market. Furthermore, Umicore's ownership is reported to be growing in the UK and in North America (NUMSA, 40). As a result, patterns of ownership and control of the PGM value chain clearly explain the extent to which global monopolies and foreign states control this segment of the South African economy.

As discussed above, PGM's have been driven by high prices due to an increase in demand for catalytic converters and luxury jewellery. South Africa's minimum capacity to intervene in the subsector and to take the advantage it should is highlighted by it remaining to be a price taker as it does not exert great influence on the price of platinum, despite having the largest share of world platinum resources and production. Futures markets, like the Nymex and the London Platinum and Palladium Market, have taken control of the platinum price, even though the physical amount of platinum involved in futures transactions appears to be minimal (M. Creamer, 2014). The sector also faces structural constraints of investment resources such as capital, power, infrastructure and education. As a result mining companies

are becoming less profitable, the South African government is losing out on tax, and workers are in perpetual unrest and the natural wealth that should be profitable to South Africa.

### 3.4 The Beneficiation strategy within the PGM subsector

In an attempt to take advantage of the opportunities that arise from PGM's and to reach its economic objective the post-South African government has had a series of strategies of which beneficiation has been the reoccurring theme, but it has not produced the results it should. Downstream beneficiation is the level of processing done within the borders of the country in which the minerals are being extracted and permits the product to be sold at a higher price than the previous intermediate product or original raw material and adds value at each stage. Beneficiation is broken down into four stages with the commodity gaining value as it moves from one stage to the other, these stages are:

- 1) First is the extraction of raw ore and turning it into a highly concentrated product.
- 2) Secondly, production of metal alloys, the first process of manufacturing.
- 3) The third stage is a crucial one where various skills are applied enhancing the mineral to meet the requirements of the end user.
- 4) Lastly, is the selling and consumption stage where the final product is reached and ready to hit the market.

However, the labour and capital required in the first two stages of beneficiation are more or less the same as required in the last two hence the stages can be clustered into two groups, the 1st being mining (upstream) and the 2nd being manufacturing (downstream). In simple terms, beneficiation strategy in its entirety takes into consideration the inputs involved in the extraction and processing of the minerals, the application of these minerals to downstream



industries, as well as the spinoff in related industries, such as water, power, transport, chemicals and telecommunications.

South Africa remains predominantly primary commodity exporter as it exports about 90% of its PGM production but there is not much downstream beneficiation occurring within the sector although the Chamber of Mines (COM) claims that there is a significant amount of downstream beneficiation taking place. Currently, the majority of PGM's are mined in the raw concentrate and partially beneficiated within the country through the smelting and refining process in preparation for the export market. In other words Beneficiation of PGM's in South Africa takes place in stage 1 and 2 (mining- upstream), then it allows for the exporting of PGM's (Soko and Balchin 2012). The Jewellery and Autocatalytic industry are largest market for Semi processed platinum and palladium resources however most of these industries operations for downstream are well established outside of South Africa. Since the early 1990's beneficiation of auto catalytic converters have been undertaken within the South African borders in association with the local automotive industry (Soko and Balchin 2012).. "South Africa produces 13% of the world's Auto Catalytic converters but there remains the scope to grow domestic production through the preservation of industry incentives and greater levels of innovation" (Soko and Balchin 2012).

### **3.5 Physical, Market and Institutional Constraints for implementation in PGM sector**

There are several constraints faced by the sector such as access to feed stocks at developmental prices, infrastructure (cost and availability), innovation, R&D, skill formation and trade barriers, rising power costs and the threat of carbon taxes (Jordaan, 2014:11). A successful beneficiation strategy in the PGM subsector will depend on whether the various

class interests are willing and able to tackle the challenges that impeded the development of capabilities to undertake downstream beneficiation of PGM's.

### ***3.5.1 Physical constraints (skills & infrastructure)***

Effective PGM beneficiation requires highly trained and specialised chemical and electrical engineers which are at a shortage. Baxter (2005: 27) argues that the skills required for Jewellery fabrication are different from those required in the fabrication of autocatalytic converters. The skills crisis reinforce the insignificance of beneficiation given that the education system fails to supply the demanded workers like millwrights, draughtsmen experienced in computer-aided design and metallurgical and chemical engineers (Rossouw and Baxter, 2011). However, Anglo-platinum has put great effort into the development of both jewellery training of and manufacturing for young African designers supported by the South African Jewellery Council (Terblanche, 2013). The local market consumes over half of the jewellery produced domestically but exports have accounted for an increasing share of local jewellery off take.

Given the energy intensive processes involved in beneficiation of PGM's and the electricity infrastructure concerns. The rising power costs and the threat of carbon taxes are among some of the problems stressed by industry. New uses for PGMs in Hydrogen fuel cells using platinum catalyst have the potential to drive development of a new industrial sector in South Africa. Therefore, since the security of energy supply has become a major concern globally and locally global platinum demand is expected to be increasingly affected in the future as energy demand expected to grow more than 60% by 2030. A possible market is underground locomotives in mines, a prototype of which was put into operation recently at one of the PGMs mines in the country to establish the viability of commercialization. The use of platinum-based hydrogen-powered fuel-cell locomotives would reduce the energy

dependence of the mines on the state-owned power utility, and would be more environment-friendly than traditional rail transport while the clean energy of a fuel cell has great benefits, particularly underground.

### **3.5.2 Market constraints**

Import Parity Pricing (IPP) acts as a market constraint that impedes implementing a successful beneficiation strategy in the sector. IPP is a pricing practice adopted by firms which sell their products to local producers at the same level as the import price of that product. It affects the affordability of the resources as inputs become expensive. This reinforces the competition problem the sector already faces as it means that in the absence of competitors dominant firms exert unilateral market power in setting prices. A Senior Official from the DTI had the following to say about the impact of IPP in the sector:

*“Import parity price discourages institutions from participating in the third and forth stages of beneficiation. it makes buying the primary mineral too expensive one might as well buy it from China and not from here. So our negotiations with the industry was that they must transfer the mineral at a discounted price to the people that are interested in playing in the third and fourth stages of the beneficiation process since they are major producers....Even if we have investors who are interested in beneficiating if they are still charged at import parity price they would kill the industry instantly. So if they are located at a place where the minerals are actually mined I think we can have minerals beneficiated on the third and fourth place”* (Interview, DTI. 24.10.2014).

The argument made by Roberts and Rustomjee, (2009: 65) is evident here; beneficiation is impeded by the uneven power relationships between the oligopolistic upstream industry

which practices IPP and the downstream domestic industry that cannot exert countervailing power.

Another market constraint faced by the subsector is that there is currently almost no domestic industry or market that would enable the export of high-value products into growing international hydrogen fuel-cell markets (Perrot, 2013). The technology is not yet commercially practical, and the prospect of hydrogen fuel cells becoming a technology of the future may be doubtful (Perrot, 2013). However, platinum mining companies such as Anglo-platinum have demonstrated support for market development and downstream beneficiation by investing in the portfolio through their platinum financing schemes. But in the name of beneficiation Anglo American pursues its preferred procedures and technology and not the South African state (Perrot, 2013).

### ***3.5.3 Institutional constraints***

Even though there is some downstream beneficiation of Auto Catalytic industry the problem is that there is currently no incentive that supports the Auto Catalytic converter industry in South Africa on its own merit. Turok (2013: 9) argues that the internationalisation of the current mining structure is problematic to the development of the sector because industry remains interested in the export of raw materials as mining companies become bound to long term beneficiaries. The Auto catalytic industry was brought to South Africa at the request of the of the automotive industry and it is sustained here by virtue of the auto industry incentive programs but it has nothing to do with the strategic value for South Africa in beneficiating and adding value to the country's key mineral resources (Dawar, 2013). As a result local beneficiation via the auto catalytic converters has been at a decline because the production of platinum resource based commodities being moved to other global localities due to uncertainty about changes to government incentive programmes. This problem suggests an

institutional constraint that the state lacks sufficient policy coherence to develop more labour intensive and value adding upstream manufacturing sector to become competitive and successfully industrialise (Darwar, 2013). Kaplan (2007), Morris (2011) and Jordaan (2014) are among some of the scholars that have located beneficiation in the context of institutional alignment and propose that South Africa needs institutional arrangements that are strategically directed and appropriately aligned for transforming the economy into an engine for growth.

### 3.6 Conclusion

The chapter has shown that there are many opportunities that arise from the production of PGM's even though it's a challenge developing this industry. The chapter argues that the success of the beneficiation strategy in the PGM sector is hindered by many underlying class forces and other socio economic factors that require significant state intervention to be resolved. This political economy point is made more intense by the structures of ownership and control of value-chains in the top fast-growing economies such as Europe Japan, China, North America and the United States which weakens the state in relation to mining capital. The following chapter is a presentation of the primary insights from research respondents regarding beneficiation and implementation

## Chapter 4

### Findings and Analysis of Primary Research

## DIFFERENCES BETWEEN STATE AND CAPITAL

### 4.1 Introduction

This chapter aims to provide an understanding of the insights gained from the field work. It discusses the different ideological divisions of the various classes regarding industrial policy and it also reflects on the forces that are exerted on the state and market complex interaction. The chapter discusses insights respondents from various class interests (Labour (Trade Unions), Government and Private Sector). It aims to assess stakeholder positions on the definition of beneficiation, their perception regarding implementation and their perception on possible policy measures to achieve successful beneficiation. The chapter develops an argument raised in chapter one that behind the apparent policy consensus around the need for more beneficiation in the mining sector, there are sharp divisions of interest between different class actors and that the implementation of this strategy is limited by the comparative weakness of the state in relation to mining capital. This has an impact on policy implementation and it is part of the reason why the South African state seems unable to use its capacity to take full advantage of the opportunities that arise from the PGM subsector.

### 4.2 Beneficiation as a concept for development

For a metallurgist beneficiation may be defined as any act of processing the mined ore, and investors see beneficiation as anything that adds value to a project. The MPRDA (2002) defines beneficiation as *“the transformation, value addition or downstream beneficiation of a mineral and petroleum resource (or a combination of minerals) to a higher value product, over baselines to be determined by the Minister, which can either be consumed locally or exported.”* (MPRDA, 2002). There is lack of clarity with regards to the MPRDA’s definition

of beneficiation as it is not clear what constitutes a transformation or value addition it may be just smelting the ore or refining. It is also not clear what baselines will be determined by the Minister and this leaves too much discretion in the Minister as to the implementation. The definition in the amendment Bill of 2013 is amplified in relation to any mineral resource and it is defined as:

- (a) Primary stage, which includes any process of the winning, recovering, extracting, concentrating refining, calcining, crushing washing, screening, washing reduction, smelting or gasification thereof;*
- (b) Secondary stage, which includes any action of converting a concentrate or mineral resource into an immediate product;*
- (c) Tertiary stage, which includes any action of further converting that product into a refined product suitable for purchase by minerals-based industries*
- (d) Final stage, which is the action of producing properly processed, cut, polished or manufactured products or articles from minerals accepted in the industry and trade as fully and finally processed or manufactured and value added products or articles*

The changes in policy definition suggest indicate the complexity of the beneficiation as it encompasses the economic, social and scientific aspects associated with the strategy. The definition and understanding of beneficiation is crucial for determining class positions and the vested interests in beneficiation. This is important because it establishes if the stakeholder supports or opposes the policy. The respondents also contributed various ideas of what beneficiation is and this has an impact on how the strategy is formulated and implemented. Some defined according to individual preference and others had a shared institution definition. In an interview, one of the DMR's senior officials explained how the definition of beneficiation varies in meaning according to the stakeholders:

*“When I first came to the department everybody was referring to beneficiation as value addition to the mineral but then I realised that from the government’s point of view and the industries point of view the meanings are different. Because you will find that for example, PGM’s the industry refers to beneficiation as smelting to refining process whilst the government would be looking at the finished product. I think from the government point of view we would be looking at the finished product .We are looking at adding value from there onwards not from the concentrate as you get them from the mines and the smelters. So I will say beneficiation is value addition and the final product should be realised.”*

(Interview: DMR official, 24.10.2014)

Another senior official from the DTI had the following to say regarding the definition of beneficiation:

*“I prefer calling it mineral value addition. It is a process that transforms an ore into a value added product. In our unit here in the department we have segmented beneficiation into four stages. (Interview: DMR official, 24.10.2014)*

Professor Ben Turok an economist, ex member of Parliament of the ANC part of the ANC beneficiation task team also provided the same definition of beneficiation as the respondent from the DTI. He argued that understanding beneficiation by identifying the different stages is ideal as South Africa needs a step by step approach so that you break down the value chain into its component parts (Interview: Professor Ben Turok, 02.10.2014).

Similarly, the Mining industry in South Africa represented by the Chamber of Mines (COM) is also of the view that mineral beneficiation is a process that occurs in four stages but there are two types that is mining beneficiation (upstream) and manufacturing beneficiation (downstream). They argue that manufacturing beneficiation is not what the mining companies



are supposed to do; their only objective is to mine what is in the ground as they do not have the expertise to do manufacturing (Baxter, 2014). Professor Ben Turok had the following regarding the COM's definition of beneficiation and their stance in the beneficiation process:

*“They (mining industry) draw a distinction between the two types of beneficiation as a neat way of covering up the fact that they make their money out of exporting ores.”* (Interview: Professor Ben Turok, 02.10.2014)

The above interviews demonstrate that the apparent consensus about beneficiation stems from the similarity in definition and the process in stages that it should take. However, the difference is to what extent or how far up the value chain are the stakeholders willing to beneficiate. The understanding of the process is adjusted to suit each of the stakeholders' interests. Interestingly, Dr Phakathi the Deputy Head of Safety and Sustainable Development at the COM provided a socially inclusive definition, he said:

*“It's a strategy that is meant to benefit all those who are concerned in mining and readdress issues of the apartheid legacy. It is also a way of ensuring that mining is a blessing and not a curse to society”* (Interview: Dr Sizwe Phakathi, 12.09.2014).

Mr Duma Gqubule Black Economic Empowerment (BEE) expert and founder of KIO Advisory also defines and understands beneficiation as value addition (Interview, Duma Gqubule, 12.09.2014).

The above different understandings of beneficiation by the various stakeholders demonstrate the lack of a shared understanding of what beneficiation is. However, the responses also demonstrate a shared consensus for the implementation of the policy. Socio economic conditions also come into play in defining beneficiation as each party has its own interests in

engaging in beneficiation. Beneficiation for the mining industry should be pro capital as they seek to maximize their profits, for government it's about regulating the supply of production and that socio economic conditions are up to scratch and for the trade unions the agenda is to obtain better wages living conditions and so forth. All these different interpretations of beneficiation cancel each other out and in essence they should not in order to make the implementation of this strategy a success. This also suggests the idea that beneficiating national resources to steer industrialisation is not a national strategy as a national strategy would mean that all class interests share and strive towards implementing a strategy that is set to archiving a single goal.

#### 4.3 Who should beneficiate? Perceptions on strategy implementation

Who should beneficiate and how beneficiation should take place in South Africa is a controversial issue as the various class interests have their own opinions. NUMSA and the Economic Freedom Fighters (EFF) political party are strongly of the view that nationalisation is ideal as it allows for the state to have the autonomy and control the countries mineral resources. On the other hand, the ANC was initially in favour of the nationalisation of mines and banks as outlined by the Freedom Charter but there is a policy shift in what is ideal to steer development as the ANC rejected mine nationalisation from 1994 and it is currently seems to be in favour of the mining industry debate which rejects the nationalisation debate and has opted to be in favour of Resource nationalism. Professor Ben Turok argued that:

*“Resource nationalism introduces economic planning, allows for the emergence of a developmental state rather than an apathetic or authoritarian state. It is preferable to mechanical reliance on global markets on the one hand and knee jerk nationalisation on the other”* (Interview: Professor Turok, 02.10.2014).

Determining stakeholder interests sheds light on the type of instruments that the stakeholder uses to implement this policy. There seems to be no party willing to take responsibility to steer beneficiation and working together to ensure the realisation of a successful beneficiation strategy. Working together also seems to be not optional due to a number of reasons and excuses that have been brought up over the years. As noted in Chapter 2 Section 26 of the MPRDA provides for the Minister of Mineral Resources to promote beneficiation, and in doing so it might compel mining companies to beneficiate minerals up to a certain level. However, Section 26 seems to be misunderstood by industry as a clause compelling mining companies to be manufacturing companies or for them to build factories. The COM has been vocal in their policy and in the media about their refusal to engage in downstream beneficiation. However, in parliament Roger Baxter took a shifted ground and said that the mining industry does favour beneficiation and they are willing to help (Seccombe, 2014). Turok had the following to say about the misunderstanding:

*“No you see that is where the confusion comes in we are not saying the chamber of mines...Anglo American should become a manufacturing company, nobody is saying that. We are not saying that the mining company Amplats and so forth should make the factories, nobody is saying that. What we are saying is that they must supply the mineral at a decent cost that’s the argument. And they are saying, you must have read this, they are not going to subsidise manufacturing... All we are saying to the mining companies is that they must sell at a local price which is a discount price compared to the local price. You see they are not telling the truth we are not saying give a subsidy to manufacturing. We are not saying Anglo must manufacture we are saying sell at a local discount price and its common sense.”*

(Interview: Professor Ben Turok, 02.10.2014)

However, the Senior Official from the DMR argued for the following:

*“It’s either the government undertakes to beneficiate all the minerals and place a figure of how much we will beneficiate”* (Interview: DMR, 24.10.2014).

NUMSA has been firm on their argument regarding the ownership and control of the mines as they believe that it’s the reason why implementation has not taken place as it should. For NUMSA beneficiation is possible if the state owns and controls its mineral base therefore the state should be held responsible for beneficiation (NUMSA, 2013). This is what Mr Tangala had to say regarding who should beneficiate:

*“The key thing is that our view is that late developers require state intervention. The state has to play a very strategic role if you are to industrialise and develop economically... the question of state ownership assists in doing that. For instance ferrochrome which is an input to platinum the price is very expensive due to Import Parity Pricing (IPP) and if there was state ownership and if there were other mechanisms that would be availed at development pricing taking into consideration of downstream”*. (Interview: Tengo Tangala, 22.10.2014).

Dr Phakathi from the COM argued that beneficiation cannot be done solely by industry but it should be a joint effort. However the state as a regulator should create an environment that is conducive for mining companies to operate productively (Interview: Dr Phakathi, 12.09.2014).

The different views show that the relationship between ideas concerning the new roles for the state in development. Since the type of instruments used by the stakeholder determines how the policy will be executed, the findings demonstrate that the various stakeholders are participating in beneficiation but the degree to which they participate is depends on their interests.

#### 4.4 Perceptions on policy measures for beneficiation

Governments proposed Beneficiation Bill was to be included in the countries mining legislation in the near future. The Bill was drafted by the DME in collaboration with the DTI, the National Treasury and had some input from the COM. The Bill essentially forced mining houses to undertake value adding downstream processing (Cohen, 2014). However, a lot of controversy spiralled out from the COM rejecting the Bill and this lead to the ANC changing this stand point as the former Minister Shabangu proclaimed that mining companies will not be forced to beneficiate (Cohen, 2014).

Legitimacy was at the centre of the East Asian developmental state therefore a successful developmental path must include the appropriate legal and regulatory framework (Gumede, 2011: 3). From this, policy must be flexible enough to allow a variety of efforts including regulatory efforts to be sufficiently revisable so that the outcome of learning can be incorporated easily (Gumede, 2011: 3). The findings reveal that there is no consensus among the different stake holders with regards to the different policy measures that should be used to enable beneficiation. There are factions within the government of the ANC and among different stakeholders regarding the use of legislation to enforce beneficiation. Professor Turok had the following to say:

*“No mines should not be forced to beneficiate coercion is the last resort because these institutions are big, strong and powerful with have powerful lawyers too. If you are going to get into coercion you are going to... create a huge battle. Taxation is one thing and coercion is another and I agree with taxation but how much is always a battle between government and business. These things can be negotiated tax is a jurisdiction in which negotiation is a norm there is nothing unusual about it but nationalisation is something else. List argues that taxation is*

*the answer I argue for an export tax, use market forces instead of legislation because the discussions around market forces and taxation are more acceptable. You have to ask yourself, where does power lie in South Africa? Is it with the EFF or with Anglo American? Now if you are going to use force coercion how strong are you as the government? Therefore you have to find other ways. What I am saying is let's be smart and use methods that we can get away with. When you use coercion then you are not being smart because you are giving the enemy a big weapon". (Interview: Professor Ben Turok, 02.10.2014)*

A respondent from the DMR had a different opinion with regards to this strategy he said:

*"Place mining conditions on the licences as a potential. Before we issue mines with a licence, the condition should be they are really going to benefitate whatever that's being produced. Let's force them to benefitate through legislation. We should not be begging the investors to come and invest they should be begging us. Use the MPRDA conditionality's to the licences when there is no compliance they must be revoked and have a monitory system to make sure the state is not cheated". (Interview: DMR, 24.10.2014)*

Dr Phakati stated the following:

*'Mining companies do not need to be forced to benefitate. There is an increasing realisation in industry that we need to establish a socially acceptable mining business. We need to start on working on the trust deficit and start seeing that the mining industry is interested in developing the country' (Interview: Dr Phakathi, 12.09.2014).*

The issue of licensing is controversial in South Africa's mining politics. The current Minister of Minerals Mr Ramatlodi does not have the power to introduce conditionality's of all kinds. However, Turok and Paul Jordaan shared the same sentiment with the respondent from the DMR regarding the issue of licensing. Paul Jordaan pointed out that since we have the power to licence we should introduce conditionality's to the licence (Interview: Dr Paul Jordaan, 19.10. 2014). Other people are saying it is not quite like that and you have to deal with whether the legislation does give to the minister power to legislate conditionality's under licensing it is not clear it is under discussion.

Mr Tengo Tangala argued that gaining ownership and control of the mines including the use of other policy instruments is key. This is what he said:

*“Our argument is that in the long term we must deal with issues of ownership and control but there are other industrial policy instruments which must be put in place among those. There are two possibilities there is the radical one and the reformist one. The radical one is that government should identify key strategic sectors in the economy the same way that oil rich economies did or what are the key mineral resources the state has. Of course given the global demand of PGM's that should be first in the priority list. The radical one is that the state should own 100% or given the fact that the state does not have the technological capacity the state should have 60% participation. Look at Botswana its either 60% ownership. 60% share so that you could determine the use of the mineral resources. The radical one is the 100% nationalise and you nationalise for the purposes of beneficiation but that does not mean that you won't attract foreign direct investment. With regards to mining of these mineral resources the state has ownership but with regards to beneficiation of these mineral resources the state*

*could attract investment those who have the technology may come the whole logic is that we want local production so that we may produce them internally in South Africa. So you can them those who are in Europe to come and beneficiate here in South Africa". (Interview: Tengo Tangala, 22.10.2014)*

Professor Turok provided an opposing view:

*"Unless you are politically secure and feel that when you own, when you take over you are going to take control of this thing and run it then do not do it. So my position is that I do not believe that this government is in the position to run those mines we can't run but we are running. We are not very good at running anything in my view. Since ministers are looting the economy are we ever going to be able to take over the mines? No I do not think so. So my own view is that take it easy...let us rather find other instruments". (Interview: Professor Ben Turok 02.10.2014)*

One could argue that the response provided by Professor Ben Turok is partially a neo-liberal reaction as he questions the states capacity to guide development and whether delinking is the best way to promote growth. He questions the government's ability to process the information needed to put South Africa on the right growth path. He also recognises that the market is important and that private actors have the information needed to chart effective strategies but without the state. One could argue that his argument is subjective because the people operating the mines currently are not the mine owners, in the same way the state can put the same people in charge to run the mine.

Central to developmental state theory is the idea of strategic industrial policy; the state has a crucial role in harnessing national resources and directing incentives through distinctive



policy making promises (Johnson, 1982: 20). Therefore, industrial policy should be a shared ideology to drive the nation's development agenda. However, in South Africa industrial policy is an ideologically contested subject as it means different things to various stakeholders. It is an ideologically contested subject.

*“Industrial policy is collectively developed and it's a good policy but the problem is implementation... policy is not made in boardrooms but it is made in the streets. Policy is about power dynamics if we don't have social dynamics fighting on the ground you won't get it on paper. We are mobilising for that.*

(Interview: Tengo Tanga, 22.10.2014)

The disagreement regarding the policy instruments to be used to ensure successful beneficiation is evidence that the state is fragmented in terms of its approach to industrial policy.

## 4.5 Conclusion

This chapter has explored the contested concept of beneficiation. It has showed the impact that the lack of common understanding of the concept has on policy implementation as a measure of state capacity. The chapter has also discussed the different ideological divisions of the various stakeholders regarding industrial policy and reflected on the contestations of interests. The following chapter deals with the roles and interaction between key departments, business and labour showing how this relationship has impact on policy and state capacity.

## CHAPTER 5

### Findings and Analysis of Primary Research

#### Differences within the state

### 5.1 Introduction

This chapter discusses the differentiation within the state regarding the beneficiation strategy. The chapter begins by discussing the manner in which individual interests within government have an influence on policy in the sector. It also discusses interaction between key departments, business and labour with an aid of the insights from the interviews with the respondents. It examines their key differences with regards to the beneficiation and its implementation. The chapter examines coordination between the key government institutions and business and it also reveal power politics within the institutions and between them.

### 5.2 Individual interest vs State interest within the ANC

Since the end of the apartheid the South African state has been doing a lot to transform the ownership of its mining wealth and to create a class of closely aligned capitalist through the BEE policy. However, this has resulted in the creation of members of government (politicians) who have become wealthy and successful as members of corporate boards and those closely related to top figures in government. Consequently, within the state there are individuals that have political interests in economic interests in mining which results in the state being captured to serve the interest of capital and not those of the state. Davies, Kaplan, Morris, and O'Meara (1976) conceptualise these fractions as the power bloc through which the dominant classes compete to maximise power over policy outcomes. Usually the state adopts policy measures that preserve the power of that fraction of capital. This results in the

state being captured to serve the interest of capital and not see beyond its immediate interest (Davies, Kaplan, Morris, and O'Meara, 1976).

To understand how some parts of the state have been captured by mining capital, the thesis draws from Hellman, Kauman and Jones (2000) concept of state capture which occurs when powerful individuals or firms use illegal and legitimate channels to shape the laws, policies, and regulations of the state to their own advantages. State capture often occurs when there are unclear boundaries between the political and business interests of state officials are exploited by specific groups and state officials for their mutual benefits at the expense of the society in question (Hellman: 1998:3). Mr Tengo Tangala highlighted that class interests and internal power dynamics that are embedded within government also contribute to the problem:

*“The problem is that there is a lack of political will but it is not a matter of political will only, it's also the interests within government. You see what has happened is that most of the ANC members in government today have shares in some of these companies such as Ramaphosa and the Minister now has shares in the industry. So the policy does not take place outside the ANC it also takes place inside and that is where the problem is...Because if you look at all the other government documents like the IPAP it speaks about beneficiation and identifies the exact key sectors we must beneficiate...The ANC document speaks about beneficiation and identifies some of those sectors but the problem is the class interest that are there and the questions of accumulation in the ANC prioritised over others”* (Interview: Tengo Tangela, 22.10.2014).

The information gathered here is evidence that the policy elite have influence on the implementation of policy. Therefore, these individuals' economic interests would be severely damaged if a developmental price was introduced including all other provisions made by the

MPRDA. The fact that individuals like the Deputy President Cyril Ramaphosa have two conflicting interests is a possible reason why the South African mineral policy is based on uncertainties and constantly needs to be reviewed. Therefore this delays the realisation of a successful local beneficiation strategy.

### 5.3 Differences within the Ruling Alliance

South Africa is ruled by the by the tri-apartheid alliance of the ANC, the South African Communist Party (SACP) and the Congress of South African Trade Unions (COSATU) which are generally form the government but not the same thing. These are different institutions that have a relationship with one another as a result there are differences within the alliance. There are those who are serious about ensuring the success of a successful beneficiation strategy and call for nationalization and there are those who call for resource nationalism. Yet again the debate is about the form and degree of state intervention in mining sector. The factional contestation within the ANC has also exacerbated tensions within the COSATU and the National Union of Mineworkers (NUM), organizations that have been at the core of the leftist faction of the ANC (Butler, 2013).

### 5.4 Roles and interaction platforms for stakeholders

As discussed in Chapter 2, policy interventions that are set in place by the government to encourage mining beneficiation include the Minerals Petroleum Development Act (MPRDA) and the Industrial Policy Action Plan (IPAP). Therefore, with regards to ensuring the realisation of a successful beneficiation strategy the Department of Trade and Industry (DTI) and the Department of Mineral Resources (DMR) have crucial roles to take part in. The DMR main role is to manage the MPRDA and it developed the beneficiation strategy because it has the basis of the MPRDA which administers the strategy. The DTI's main role is to make an

industrialisation impact therefore it is responsible for implementing the beneficiation strategy and it is also the driver of the IPAP (Interview: DTI, 24.10.2014).

National Economic Development and Labour Council (NEDLAC) is the platform where there is business, labour and government engage with each other, government in the form of the DTI and Economic Development. NEDLAC is constituted of different chambers and they are the Trade and Industry chamber, the Development chamber and Labour Market chamber (NEDLAC, 2014). As an industrial union, NUMSA is represented in all chambers of NEDLAC but it is represented mainly in the Trade and Industrial Chamber hence the department responsible for trade and industry is the DTI partly because it is a department that is mandated to drive industrialisation in the country. However other departments such as the DMR also do come forth from time to time to make presentations in that chamber.

## 5.5 Interaction between key government departments

A developmental state is characterised as one with an active industrial policy, a state bureaucracy that is efficient, improved coordination between key departments and prioritisation of the nation's development goals (Gumede, 2011:3). South Africa's newly adopted State Intervention in Mining Sector (SIMS) policy argues that lack of co-ordination and strategy alignment between key departments (Mineral Resources and Trade and Industry among them) has seriously compromised the management of South Africa's mineral resources (SIMS, 2012: 30). Successful developmental states boast high levels of policy coordination, linked to a well-established monitoring and evaluation system (Gumede, 2011:3). South Africa's ambition is to build a developmental state but the research findings have revealed that the lack of interdepartmental co-ordination is one of the problems that undermine the very effort to establish the developmental state.

The research findings reveal that South Africa struggles with mandate creep between government departments and state-owned companies for this reason many have raised concerns about the DMR's strategy being incompatible with the DTI's industrialisation strategy. A respondent from the DTI had the following to say about the compatibility of the DMR's industrial strategy with the DTI:

*"I would not say that our industrialisation strategy is compatible with the DMR's because our unit exists as an implementation business unit of the national beneficiation strategy. Hence when we started we looked at their beneficiation strategy and then we took key value chains. They (DMR) identified 5 value chains based on their own objectives identified 5 but we took key value chain that we felt were are important for industrialisation but essentially we still came back to similar value chains. They (DMR) identified platinum it is just that they are looking at certain value chains. We have auto catalytic converters and fuel cells under platinum and they chose to go with Jewellery. We chose to go with auto cats for industrial purposes because Jewellery is a very minimal market for industrial development in our view. So we went for value chains that would make an industrialisation impact because they are key inputs into the economy. We look at coal to polymers that is a key industrialisation point...We took our value chain from their beneficiation strategy but it's just that our key focus was industrialisation. The key element in the value chain that they had identified would give us an industrialisation advantage"* (Interview: DTI, 24.10. 2014).

However, Professor Ben Turok has great experience working in government and a significant member of South Africa's ruling party had the following to say about the relationship between key departments in government:

*“Government works in silos they do not cooperate. One of the things that have developed in recent years is a silo mentality in government and the NDP is just a phrase. The requirement of cooperative government is not implemented and this is one of the big tragedies of our period today. There is disconnect within government between ministers and departments and there is an even bigger disconnect between government and business”* (Interview: Professor Ben Turok, 02.10. 2014).

Professor Ben Turok shared the same sentiments with the DMR respondent, they argued that there is a lack of communication between the two departments but sometimes the lack of coordination is due to the departments not knowing what they are supposed to be responsible for (Interview: DMR, 24.10.2014). In most cases the objectives are not the same or they overlap and as a result one does not know where to draw the line (Interview: DMR, 24.10.2014). It is hereby evident that the roles of these key departments are somewhat uncertain and to a certain degree their agendas as entities of the state become vague. One could argue that the argument made by DMR respondent is evident in the statement made by the DTI respondent although she somehow disagrees that lack of coordination exists between the two departments. The fact that the two departments identify key value chains that are somehow different from each other is evidence that there is somehow a lack of dialogue and agreement between the departments thus, their objectives with regards to how industrialisation should be steered are different. Furthermore, with reference to the policy discussion in Chapter 2 note that the DTI’s industrialisation strategy recognises the development of fuel cells as ideal but the DMR does not consider them an important value chain for industrialisation in the DMR’s beneficiation strategy. This is evidence that the DTI’s strategy is misaligned to that of the DMR which results in policy incoherence.

A respondent from the DMR (2014) also stated that what complicates defining the roles of these departments even more is that some state enterprises such as Mapungubwe Institute for Strategic Reflection (MISTRA) focus on PGM's but they also work on the same and sometimes similar beneficiation projects as the DTI's and DMR. However the institutions all work as individuals and not as a single entity of the state. This affects the states capacity to implement the beneficiation strategy in the PGM sector (Interview: DMR, 24.10.2014). Professor Ben Turok and the DMR respondent argue that the lack of co-ordination between the two departments is caused by lack of leadership and this begins from the top of the ANC, the mandate is not clear but ambiguous for both departments and this makes it difficult for the state to achieve its objective (Interview: DMR, 24.10.2014, Professor Ben Turok, 02.10.2014). Therefore, the realisation of a comprehensive and integrated state response is hindered by what Segatti & Pons-Vignon (2013) coin as the technocratic structure. The concept expresses that the South African states capacity to intervene in industry is hindered by the ideological differences between ministries and power variations between them.

## **5.5 The tension between the state with the mining industry**

State capture also defines the relationship between the mining sector and the state as capital development depends on a hegemonic fraction empowered to use the state as an instrument of advancing their policy interests (Davies et al., 1976). The South African state does not implement its beneficiation strategy in partnership with the private sector. The MEC focuses on the state (industrial) capital relations and how the nature of this relationship shapes interventions for development. According to Gumede (2011) a mix of interdependent conditions such as an effective state, presence of key institutions, their inter-arrangements and mix their relationships with the market and civil society including business and organised labour is at the heart of a successful developmental state. Therefore dynamic alliances



between political powers and the private sector are crucial to the success of the developmental state in pursuit of the common goal of economic growth and development (Gumede, 2011). However, the research findings reveal that there is no agreement between the state and business on how to steer industrialisation through the beneficiation strategy.

With regards to beneficiation the DTI engages with the Chamber of mines through DMR which is their main stakeholder to hopefully get beneficiation to take place. This is because the DMR has the policy instrument (MPRDA) that can enforce for the mines to do what the state requests. However the results have revealed that South Africa has been unable to jointly implement this strategy with the private sector. Professor Ben Turok, the DMR and DTI respondents all shared the sentiment that the COM does not cooperate with government. Turok had the following to say regarding the relationship of the government and the mining industry:

*“The mining industry has been playing games with us they make profits out of exporting. The chamber of mines wants to be separate from the rest of the economy protecting its rights and privileges and profits. So they say they are specialists in mining, they have the technology; they have staff and have their markets. In other words they are saying don’t mess with us quite strongly. The counterargument is that, certainly from the ANC point of view and from the government, the minerals beneath the soil belong to the people and not to the mining companies. It only belongs to them when they reach the ground and given some treatment to make alloys and so forth then it is their property.”* (Interview: Professor Ben Turok, 02.10.2014)

Mr Tangala pointed out that the relationship between the state and the mining industry is ideological and rooted in the colonial history as he argued:

*“They (COM) are extremely opposed to us because generally they are comfortable with exporting raw minerals and the rational for that is that the imperialist history has been of locking third world economies to be suppliers of raw material that has been the global division of labour. We third world economies are perceived to be exporters of raw minerals and they manufacture and bring back what we have produced from the ground. Most of the mining companies are foreign owned that’s the problem. When they speak of policy they are not speaking of policy in the national interest they represent their own countries interest”. (Interview: Tengo Tangala, 22.10. 2014)*

The arguments presented by the respondents demonstrate that the South African beneficiation strategy is conceptualised around the historical and existing economic power relations between the state and the COM. This is because there is a difference in the ideology and agenda therefore this relationship is based on inequality of which the mining industry has more power than the state.

The findings also reveal that the South African state is also captured through the use illegal channels as its relationship with industry based on secrecy, exploitation and corruption. The DMR respondent had the following to say about the DMR’s relations with the mining industry

*“The relationship with the chamber of mines for example I wouldn’t exactly say that it is one of working together you should remember that the COM represents the entire industry and their main objective is to make money. Then there is the government a different entity. We are aiming at regulating the industry all together and we have got nothing to do with making money that is why most of the time there is a clash between the COM and the DMR. I will give an example,*

*the mines report what they produce to the department. The COM has the mines production data, what we have found out not so long ago is that their data does not match what the DMR has. There was a massive difference especially for gold and we had to work out to try and see what is happening only to find out that there were other producers that we didn't know about at the department but are reporting to the chamber of mines".(Interview: DMR, 24.10.2014).*

The respondent continued to argue that although the state is being cheated off its mineral resources it does not exactly turn a blind eye but uses its capacity to do follow ups on whatever problems they are experiencing with industry as there are clauses legislated in the MPRDA about how they can be punished(Interview: DMR, 24.10.2014). However, monitoring and regulating production the mining sector is a difficult thing to do. This is what the DMR respondent said:

*"First of all when it comes to the mining industry honestly and this is my personal view I think it is difficult to regulate them because most of the time we rely on what the producers telling us and most of the time we have no way of proving it. So if they tell us they produced a certain amount of platinum and only to find out that they have produced a certain amount we cannot do much about it" (Interview: DMR, 24.10.2014).*

This suggests that, South Africa does not bear a resemblance to a developmental state that is successful as it does not have levels of coordination that are linked to a well-established monitoring mechanism. The state must be strong enough to resist being captured opportunistically through corruption by the COM. Therefore, this kind of cheating continues cripples the success of the creation of the local downstream beneficiation. Even if the state develops the authority to demand a certain percentage for them to beneficiate locally for fuel

cells, it is still possible for industry not to be honest about how much they have produced from the ground. As a result they will continue to serve their own agenda and the government will never know about this as it has no monitoring system that would assist the state regulate production. But how feasible is a monitoring system is what one also needs to question. The findings also highlight the weakness of the MPRDA which is meant to be the source of power protecting the state and the country's resource from this kind of relationship.

## 5.6 Differences within industry

The concept of the developmental state is constructed on the Weberian ideal type of an interventionist state that joined the state with the private sector but preserves sufficient distance for the renegotiation of goals and policies when capital interests are inconsistent with national development (Woo-Cumings, 1999: 1–2). The developmental state industrial rationalisation suggests that the state's role is to discover what is that the individual enterprises are already doing to produce the more benefits for the least cost than in the interest of the nation. The state's role is to also ensure that all enterprises of industry adopt its preferred procedures and technology (Johnson, 1982: 28). Therefore learning capacity in the new political economy of development is an important ingredient for a successful developmental state. The assumption of knowledge and learning moves away from the one size fits all neoliberal model.

The COM has been reluctant in actively partaking in local beneficiation however Anglo is playing a major role in beneficiation of PGM's as it acknowledges that beneficiation opportunities arise across the spectrum of PGM market development scope. It intends to establish a market for fuel cells by establishing a balanced pipeline of product development portfolios, facilitate the commercialisation of products, and enhance its relationship with government and communities by getting involved in development. This suggests the contrast

in policy and practice between the COM and Amplats. The contrast is an indication of the power dynamics that exist in the industry and it is also an indication that just like government business also operates in Silos. Professor Turok had the following to say regarding his observations when engaging with business:

*“Business is also in silos Business Unity South Africa (BUSA) the BNF Mining and so forth they do not talk to each other. So we have a country in which fragmentation is the norm and we talk about a developmental state and a mixed economy it’s a joke”.* (Interview, Professor Ben Turok, 02.10.2014).

To develop the market for hydrogen fuel cells Anglo American has been working with key stakeholders including the South African government since its platinum business launched its beneficiation strategy in 2009. It has been investigating ways to use fuel cells within its own business encouraging the development of a local industry for fuel cells through a R100 million fund to support South African businesses that use platinum group metals in their products (Anglo, 2014). One could argue that as superpower of the mining industry, Amplats objective is to establish or expand its market locally to increase its profits. The contrast in policy and practice should be an indication that the state has to take an active and strategic role to discover what Anglo is already doing to produce more benefits out of the opportunity that arise from hydrogen fuel cells.

There is a strong political support for local beneficiation by the government. However the problem is that the potential for hydrogen fuel cells is not realised as well as it should be as the DMR does not identify the development of fuel cells as part of its key value chains. This is what a senior official from the DMR had to say regarding the development of fuel cells:

*“Hydrogen fuel cells I don’t trust fuel cells they have been around for a long time so it’s not a new thing. I don’t think we should rely on fuel cells but catalytic converters. I am sceptical but we are very active. If we don’t rely on the European market maybe yes we can build a market for fuel cells. The reason why they are not so popular is because of the cost of manufacturing. Let’s focus on what we have and that’s catalytic converters”* (Interview: DMR, 24.10.2014)

The DTI and DMR have been doing substantial work on the development of Fuel cells. The DTI identifies them as one of the key value chains that could steer industrialisation and has established a team to work with participants to determine the economic viability of establishing a central platinum hub with satellites that allow for locational flexibility (Interview: DTI, 24 October 2014). The DMR has identified platinum as a candidate for value-chain development, backing up disparate research work for decades by the likes of platinum promoter Johnson Matthey (Interview: DMR, 24 October 2014). This is in line with the Department of Science and Technology (DST) National Hydrogen and Fuel Cells Research, Development and Innovation Strategy. This suggests is using its learning capacity to discover what is being done by Anglo to promote and support local beneficiation of fuel cells in the interest of the nation.

## Chapter 6

### Concluding Remarks

Fine and Rustomjee (1996) state that the MEC is a system of accumulation that evolves through time to include new class forces in the process of mineral development in South Africa. Through the lens of the MEC framework the thesis found that the historically distinctive path of accumulation still exists today and it is evident in how the relationship between the state and the PGM sector. The policy and legislation discussion in Chapter 2 revealed some continuities of and changes within the MEC. The thesis revealed the same argument made by Fine and Rustomjee in 1996, that in the MEC 2014 the South African states capacity to intervene in mining has been undermined by the constellation of class forces around the MEC that are so deeply entrenched and have been so successful in shaping the ANC's macroeconomic policy in their interests that is, maintaining the status quo, at the expense of industrial policy. One of the major continuities is that the state remains an agent to its development and to a large extent it is subordinated to a particular set of interests which delay the implementation of a successful beneficiation strategy within the sector. However, the development of mining policy the MEC has evolved into a policy network of beneficiation policy. It has also evolved to include a new class force through the implementation of BEE which created powerful set of interests in the core of the state who do not want the status quo to change because they are part of the mining industry.

According to the MEC framework the interaction between the state and market and their interaction result from the forces that are exerted upon them most prominent of these are economic interests and imperatives attached to specific fractions of classes (Fine and Rustomjee, 1996: 52). Therefore the state never is autonomous from class or other economic

and political interests. However, it is subject to the economic and political forces and interests that operate through and upon it (Fine and Rustonjee, 1996: 52). This explains findings discussed in Chapter 5, the reason why the South African seems unable to beneficiate local PGM's is because it is subject to the economic and political forces and interests that operate through it and within it. These forces result in a divided state in terms of policy and implementation. Therefore the contestation around what is beneficiation, who should beneficiate and how beneficiation should take place reflects South Africa's indecision about its role as state in the PGM sector, the type of intervention it should engage in and the degree it should intervene in the sector to ensure the achievement of local beneficiation of PGM's. The states constant amendment to the mining legislation is evidence of the variety of interests by class forces and it is an indication of the states uncertainty in ideological standing with regards to beneficiation as ideology prevails in good times and that once there is a crisis there is change in ideology.

The research revealed that there is a particular class force (individuals) within the state that have both political interests in government and economic interests in mining. This particular class has major influence and contributes to the beneficiation roadblock as they seek to create a political and economic conducive environment to advance their interests. This is also evident in the differences within the tri-apartheid alliance, COSATU has a structural interest in making sure that the beneficiation policy is going to create jobs and tackle inequality and at the same time remain loyal to the ANC. The MEC framework of analysis also aids in explaining the lack of interdepartmental co-ordination where one key departments which results from contrasting class interests and ideas about developing the PGM sector. This is due to the amount of power one department has than the other. South Africa does have some elements of a developmental state but globalisation, domestic and sectorial power



contestations contribute to the reduction of state capacity to pursue a resource based industrialisation in the platinum sub-sector to promote a particular power for industrialisation.

Through the use of the MEC framework this study aimed to provide an understanding of the interests of the state in the PGM subsector and provide an understanding of the reason why South African state seems unable to pursue a resource based industrialisation in the platinum sub-sector to promote a particular power for industrialisation. It has shown that that the fragmented nature of the state, disagreements among stakeholders, policy incoherence and strategy misalignment between key departments shape the political economy of the PGM subsector and play a role in advancing and delay the implementation of the strategy within the subsector. South Africa has fashioned itself as a developmental state by implementing the IPAP aimed at addressing the decline in South Africa's industrial and manufacturing capacity and contribute to the reduction of chronic unemployment by consulting with government and business. The study concluded that state capacity is an important element of a developmental state thus South Africa is going through a crisis of state capacity obstructing it from intervening in the PGM sector.

## Reference List:

African National Congress. (1994). The Reconstruction and Development Programme: A Policy Framework. African National Congress.

African Union 2011, “Minerals and Africa’s Development”, AU/UNECA, Addis Ababa, Retrieved 8 June 2014, from: [www.africaminingvision.org/amv\\_resources/.../ISG%20Report\\_eng.pdf](http://www.africaminingvision.org/amv_resources/.../ISG%20Report_eng.pdf)

ANC gives “radical” a new meaning - Sunday Independent | IOL.co.za. (2014, May 25). Retrieved May 27, 2014, from <http://www.iol.co.za/sundayindependent/anc-gives-radical-a-new-meaning-1.1693460#.U4HhEyhhSiV>

ANC SIMS DRAFT REPORT 2012. (n.d.). Retrieved from: <http://www.anc.org.za/docs/reps/2012/simssummaryz.pdf>

ANC Youth League. (n.d.). Retrieved June 8, 2014, from: <http://www.ancyl.org.za/show.php?id=5502>

ANC. (2007, December 27). 52nd National Conference: Resolutions. Retrieved June 8, 2014, from: <http://www.anc.org.za/show.php?id=2536>

ANC. (n.d.). The Freedom Charter. Retrieved June 8, 2014, from: <http://www.anc.org.za/show.php?id=72>

and government’. Journal of the Southern African Institute of Mining and Metallurgy. Vol 113, No 1: 21-3

Anglo American. (n.d.). *Anglo American hails Opportunity For a New Fuel Cell Industry in South Africa to Drive Green Growth pdf free ebook download*. Retrieved 19 June, from: <http://ebookbrowse.net/anglo-american-hails-opportunity-for-a-new-fuel-cell-industry-in-south-africa-to-drive-green-growth-pdf-d349896191>

Anglo leads the way with fuel cell technology. *Stef Terblanche - Freelance Journalist, Editor, Writer*. Retrieved May 17, from: <http://stefterblanchejournalism.blogspot.com/2013/03/anglo-leads-way-with-fuel-cell.html>

Ashman, S., Fine, B., & Newman, S. (2011). Amnesty international? The nature, scale and impact of capital flight from South Africa. *Journal of Southern African Studies*, 37(01), 7-25.

Ashman, S., Fine, B., & Newman, S. (2011). The crisis in South Africa: neoliberalism, financialization and uneven and combined development. *Socialist Register*, 47(47).

Ashton, G. (2010, August 10). Nationalisation in South Africa: Which Way are We Going? *SACISIS.org.za*. Retrieved May 24, 2014, from <http://sacsis.org.za/site/article/528.1>

Baxter, R. (2005), Mineral beneficiation: The Mining Industry Viewpoint. In: The LBMA Precious Metals Conference. 2005 Johannesburg.

Bond, P., & Khosa, M. M. (Eds.). (1999). *An RDP policy audit*. HSRC Press. briefing.

Butler, A. (2013). Resource nationalism and the African National Congress. *Journal of the Southern African Institute of Mining and Metallurgy*, 113(1), 11-20.  
Capitalism than Anything Else. *SACISIS.org.za*. Retrieved May 24, 2014, from: <http://sacsis.org.za/site/article/1781>

Capps, G. (2012). A bourgeois reform with social justice? The contradictions of the Minerals Development Bill and black economic empowerment in the South African platinum mining industry. *Review of African Political Economy*, 39(132), 315-333.

Capps, G. (2012). Victim of its own success? The platinum mining industry and the apartheid mineral property system in South Africa's political transition. *Review of African Political Economy*, 39(131), 63-84.

Carins, P. (n.d.). Something has to give in SA's platinum sector - Mining | Moneyweb. Retrieved May 24, 2014, from <http://www.moneyweb.co.za/moneyweb-mining/something-has-to-give-in-sas-platinum-sector>

Cawood, F. T., & Oshokoya, O. P. (2013). Resource nationalism in the South African mineral sector: Sanity through stability. *Journal of the Southern African Institute of Mining and Metallurgy*, 113(1), 45–52. Retrieved from [http://www.scielo.org.za/scielo.php?script=sci\\_abstract&pid=S0038-223X2013000100009&lng=en&nrm=iso&tlng=en](http://www.scielo.org.za/scielo.php?script=sci_abstract&pid=S0038-223X2013000100009&lng=en&nrm=iso&tlng=en)

Chang, H. J., & Amsden, A. H. (1994). *The political economy of industrial policy* (p. 112). London: Macmillan.

Chang, H. J. (2013). Is industrial policy necessary and feasible in Africa? Theoretical considerations and historical lessons, Retrieved October 23, 2014 from [https://jicari.jica.go.jp/.../WP\\_JICA\\_IPD\\_Africa\\_Task\\_Force\\_Meeting.pdf](https://jicari.jica.go.jp/.../WP_JICA_IPD_Africa_Task_Force_Meeting.pdf)

Chang, H. J. (1996). *EVALUATING THE CURRENT INDUSTRIAL POLICY OF SOUTH AFRICA*, Retrieved May 12 2014 from: <http://www.transformation.ukzn.ac.za/index.php/transformation/article/download/744/560>

Creamer, M. (2014a, February 24). Rand Refinery to run Amplats platinum manufacturing scheme. *Mining Weekly*. Retrieved June 8, 2014, from: <http://www.miningweekly.com/article/amplats-appoints-rand-refinery-to-run-local-platinum-manufacturing-scheme-2014-02-24>

Creamer, M. (2014b, April 4). Does South Africa have too little influence on the platinum price as near monopoly supplier? *Mining Weekly*. Retrieved May 24, 2014, from: <http://www.miningweekly.com/article/does-south-africa-have-too-little-influence-on-the-platinum-price-as-near-monopoly-supplier-2014-04-04>

Creamer, T. (2014, April 4). Minerals beneficiation a key “pillar” of SA's reindustrialisation push. *Mining Weekly*. Retrieved June 8, 2014, from:

<http://www.miningweekly.com/article/minerals-beneficiation-a-key-pillar-of-sas-reindustrialisation-push-2013-04-04>

Davies, R., Kaplan, D., Morris, M., & O'Meara\*, D. (1976). Class struggle and the periodisation of the state in South Africa. *Review of African Political Economy*, 3(7), 4-30.

Department of Mineral Resources. (2011, June). Beneficiation Strategy for the Minerals

Department of Mineral Resources. (2013, February 26). Mineral Beneficiation in South Africa.

Economic Commission for Africa. (2011). Minerals and Africa's development; The International Study Group Report on Africa's Mineral regimes. Addis Ababa: United Nations Economic Commission for Africa.

Economic Development Department (2011). New Growth Path, Retrieved June 8, 2014, from [www.economic.gov.za/.../51.../151-the-new-growth-path-framework](http://www.economic.gov.za/.../51.../151-the-new-growth-path-framework)

Edigheji, O. E. (2010). *Constructing a Democratic Developmental State in South Africa: Potentials and Challenges*. Human Sciences Research Council.

Esterhuizen, I. (2014, July 8). Resource nationalism now a bigger risk than a year ago – E&Y. *Mining Weekly*. Retrieved June 8, 2014, from: <http://www.miningweekly.com/article/resource-nationalism-now-a-bigger-risk-than-a-year-ago-e-2012-07-08>

Fakir, S. (2012, February 16). The ANC's Mining Report and Nationalisation: Quashing the Debate Even Before Its Begun. *SACSI.org.za*. Retrieved May 24, 2014, from: <http://sacsis.org.za/site/article/1210>

Fazila, F. (2014, February 20). The Nationalisation Debate: South Africa's Mineral Resources Equivalent to One Million Rand per Citizen. *SACSI.org.za*. Retrieved June 8, 2014, from: <http://sacsis.org.za/site/article/1924>

Fine, B. (2008). The Minerals-Energy Complex is dead: long live the MEC?. Retrieved June 8, 2014, from: <https://eprints.soas.ac.uk/5617/1/MineralEnergyComplex.pdf>

Fine, B. (2012). Assessing South Africa's New Growth Path: Framework for Change?. *Review of African Political Economy*, 39(134), 551-568.

Fine, B., Saraswati, J., & Tavasic, D. (2013). *Beyond the Developmental State: industrial policy into the 21st century*. Pluto.

Fine, B, and Rustomjee Z. (1996) *The political economy of South Africa: From minerals-energy complex to industrialisation*. C. Hurst & Co. Publishers.

Freund, B. (2007). South Africa: The end of apartheid & the emergence of the 'BEE Elite'. *Review of African Political Economy*, 34(114), 661-678.

Freund, B. (2009). 'The significance of the Mineral energy complex in the light of South African economic history'. *Transformation: Critical Perspectives on Southern Africa* Vol 71, No 1: 3-25.

Growth, Employment and Redistribution A Macroeconomic Policy. (n.d.). Retrieved May 5, from: <http://www.treasury.gov.za/publications/other/gear/chapters.pdf>

Gumede, W. (2009). 'Delivering a democratic developmental state in South Africa', Retrieved June 8, 2014, from: <http://www.dbsa.org/EN/About-Us/Publications/Documents/Policy%20Brief%20No.%201%20Delivering%20a%20democratic%20developmental%20state%20in%20South%20Africa.pdf>.

Haque, I. (2007). *RETHINKING INDUSTRIAL POLICY*, Retrieved May 12 2014, from: [http://unctad.org/en/docs/osgdp20072\\_en.pdf](http://unctad.org/en/docs/osgdp20072_en.pdf)

In Search of the 21st Century Developmental State. (n.d.). Retrieved May 27, from: <https://www.sussex.ac.uk/webteam/gateway/file.php?name=cgpe-wp04-peter-evans.pdf&site=359> Issue 2: 9-11

Industry of South Africa. Retrieved March 23, 2014, from: <http://www.info.gov.za/view/DownloadFileAction?id=147564>.

Johnson, C. (1982). *Miti and the Japanese Miracle: The Growth of Industrial Policy : 1925-1975*. Stanford University Press.

Kaplan, D. (2007). Industrial policy in South Africa; targets, constraints and challenges. Retrieved June 14, 2014, from: <http://www.tips.org.za/node/1685>

Kaplinsky, R. (2011). Commodities for industrial development; making linkages work. Working Paper 01/2011. Vienna: United Nations Industrial Development Organisation.

Kaufmann, D., Hellman, J. S., Jones, G., & Schankerman, M. A. (2000). Measuring governance, corruption, and state capture: How firms and bureaucrats shape the business environment in transition economies. *World Bank Policy Research Working Paper*, (2312).  
McKinley, D. (2013, September 11). The Nationalisation Debate is More about State

Microsoft Word - P72-Dewar\_Final format\_Revised paper\_Proof Reader - 6-09.docx - 893-904\_Dewar.pdf. (n.d.). Retrieved My 23, from: [http://www.saimm.co.za/Conferences/Pt2012/893-904\\_Dewar.pdf](http://www.saimm.co.za/Conferences/Pt2012/893-904_Dewar.pdf)

MINERAL AND PTROLEUM RESOURCE DEVELOPMENT ACT (2002). (n.d.). Retrieved May 19, from: <http://www.dmr.gov.za/publications/finish/109-mineral-and-petroleum-resources-development-act-2002/225-mineraland-petroleum-resources-development-actmprda/0.html>

Mineral Beneficiation in South Africa: Department briefing. (n.d.). *Parliamentary Monitoring Group*. Retrieved May 27, 2014, from: <http://www.pmg.org.za/report/20130226-mineral-beneficiation-south-africa-department-briefing>

Morris M, Kaplinsky, R. & Kaplan, D. (2011, October). One thing leads to another-promoting industrialisation by making the most of the commodity boom in Sub-Saharan Africa. Retrieved September 9, 2014, from: [http://commodities.open.ac.uk/8025750500453F86/\(httpAssets\)/BD21378EAD7D48080257A63004EEA9A/\\$file/MMCP%20Book%20\(Final\).pdf](http://commodities.open.ac.uk/8025750500453F86/(httpAssets)/BD21378EAD7D48080257A63004EEA9A/$file/MMCP%20Book%20(Final).pdf).

Morris M. (2012). 'One thing leads to another; commodities, linkages and industrial development'. *Resources Policy*. Vol 37, No 4: 408-416.

Morris, J. (2011, November 30). Electricity prices: the National Development Plan is missing the point. Retrieved May 29, 2014, from: <http://www.zaeconomist.com/wpcontent/uploads/2011/11/Electricity-prices.pdf>.

Morris, M. (2010). Industrial policy, politics and state capacity building'. Paper presented as part of a discussion note at the workshop; State Building in the Developing World at the University of Cape Town. Retrieved June 12, 2014, from: <http://www.cssr.uct.ac.za/sites/cssr.uct.ac.za/files/pubs/Industrial%20Policy%20MM%20disc>

Morriss, P. (2002). 'From power: a philosophical analysis'. In M. Haugaard (ed.), *Power: A Reader* (pp. 274-303). Manchester: Manchester University Press.

MPRDA, M. Petroleum Resources Development Act 28 of 2002, 3 October 2002. *Government Gazette*, 448(23922).

Naidoo, S. (2012, February 10). The future is beneficiation. *The M&G Online*. Retrieved May 27, 2014, from: <http://mg.co.za/article/2012-02-10-the-future-is-beneficiation/>

NUMSA (2013), draft Metallurgical Minerals Beneficiation Strategy

Perrot, R. (2013, February 1). South Africa's fuel cell plan risks failure without support - SciDev.Net. *SciDevNet*. Retrieved June 7, 2014, from <http://www.scidev.net/global/energy/opinion/south-africa-s-fuel-cell-plan-risks-failure-without-support-.html>

Peyper, L. (2013, September 16). SA tax review a sign investors' fears heard. Retrieved May 27, 2014, from [http://www.miningmx.com/page/special\\_reports/mining-yearbook/mining-yearbook-2013/1634439-SA-tax-review-a-sign-investors-fears-heard#.U4ScvChhSiU](http://www.miningmx.com/page/special_reports/mining-yearbook/mining-yearbook-2013/1634439-SA-tax-review-a-sign-investors-fears-heard#.U4ScvChhSiU)

Roberts, S. & Rustonjee, Z. (2009). 'Industrial Policy under democracy: apartheid's grown



up infant industries? Iscor and Sasol'. *Transformation: Critical Perspectives on Southern Africa*. Vol 71, No 1: 50-75.

Rodriguez, F and Dani R. (1999). *Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence*, Cambridge MA, NBER working paper 7081 and London, CEPR Discussion Paper n°2143.

Secombe, A. (2013, November 20). South Africa's role in shaping the platinum market wanes. *Business Day Live*. Retrieved May 24, 2014, from <http://www.bdlive.co.za/business/mining/2013/11/20/south-africas-role-in-shaping-the-platinum-market-wanes>

Segatti, A., & Pons-Vignon, N. (2013). Stuck in stabilisation? South Africa's post-apartheid macro-economic policy between ideological conversion and technocratic capture. *Review of African Political Economy*, 40(138), 537-555. select committee on economic development. Retrieved March 30, 2014, from <http://www.pmg.org.za/report/20130226-mineral-beneficiation-south-africa-department>

Sergeant, B. (2013). 'Nationalisation: an analysis of the competing interests of capital, labour Soko, M & Balchln, N (2002). 'A process rich in opportunities for SA', Retrieved 08 January 2015, [http://www2.warwick.ac.uk/fac/soc/csgr/green/newsandevents/mills\\_-\\_cape\\_times\\_-\\_a\\_process\\_rich1.pdf](http://www2.warwick.ac.uk/fac/soc/csgr/green/newsandevents/mills_-_cape_times_-_a_process_rich1.pdf)

South Africa - Jewellery Briefing. (n.d.). Retrieved June 8, 2014, from: [http://info.goldavenue.com/info\\_site/in\\_jewe/in\\_je\\_sa.htm](http://info.goldavenue.com/info_site/in_jewe/in_je_sa.htm)

Southall, R. (2004). Political change and the black middle class in democratic South Africa. *Canadian Journal of African Studies/La Revue canadienne des études africaines*, 38(3), 521-542.

Stevens, C (2014), 'THE IMPACT OF THE MPRDA AMENDMENT BILL' Retrieved 08 January 2015, <http://www.werksmans.com/legal-briefs-view/the-impact-of-the-mprda-amendment-bill/>

Terblanche, S. (2013, March 16). Stef Terblanche - Freelance Journalist, Editor, Writer:

Turok, B. (2013). 'Problems in the mining industry in South Africa'. GREAT Insights, Vol 2,

Turok, I. (2010). Towards a developmental state? Provincial economic policy in South Africa. *Development Southern Africa*, 27(4), 497-515.

up infant industries? Iscor and Sasol'. Transformation: Critical Perspectives on Southern

White Paper: Minerals and Mining Policy for SA. (1998). (n.d.). Retrieved from: <http://www.dmr.gov.za/publications/finish/125-white-papers/335-white-paper-minerals-and-mining-policy-for-sa-1998/0.html>

Wild, F., & Kew, J. (2014, April 4). South Africa's PIC Says Platinum Producers Should Control Prices. *Bloomberg*. Retrieved June 7, 2014, from: <http://www.bloomberg.com/news/2014-04-03/south-africa-s-pic-says-platinum-producers-should-control-prices.html>

Woo-Cumings, M. J. E. (1998). National security and the rise of the developmental state in South Korea and Taiwan. *Behind East Asian growth: The political and social foundations of prosperity*, 319.

Zalk, N. (2013). Industrial Policy in a Harsh Climate: the Case of South Africa. *Growth, Productive Transformation and Employment: New Perspectives on the Industrial Policy Debate Industrial Policy for Economic Development—Lessons from Country Experiences*.

## Interviews list

Dr Paul Jordaan, University of the Witwatersrand, 19 October 2014

Dr Sizwe Phakathi, Chamber of Mines offices Johannesburg, 12 September 2014

Duma Gqubule, Rosebank, 04 September 2014

Mr Tengo Tangala, University of the Witwatersrand, 22 October 2014

Professor Ben Turok, Sandton, 02 October 2014

Senior official from the DMR, DMR Pretoria, 24 October 2014

Senior official from the DTI, DTI Pretoria, 24 October 2014